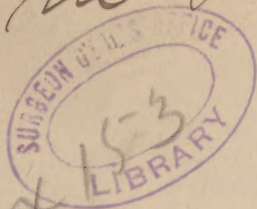


Engelmann (G. J.)

Posture in Labor.



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FIG. 1.

FUNERAL URN, WITH ANCIENT PERUVIAN LABOR SCENE.

POSTURE IN LABOR.

INTRODUCTION.

IT was my good fortune in 1877 to add a valuable collection of ancient Peruvian pottery to my archeological museum. At the same time, whilst interested in these matters, I was told of an urn or vessel brought from the ancient graves of Peru, which represented a midwife delivering a woman in labor, and was then stowed away in the home of its discoverer, Dr. Coates, of Chester, Penn. My interest was at once aroused and I wrote to the gentleman requesting a photograph or cast of this unique piece of pottery. I received no answer, but constantly bore the subject in mind, until, finally, upon my visit East in 1879, my esteemed friend, Dr. Albert H. Smith, of Philadelphia, enabled me, through the kind offices of Dr. Anna E. Broomall, to examine the specimen, which proved so intensely interesting to me that I determined to satisfy myself as to the correctness and the historic value of this group, and, moreover, to study the subject of posture in labor. This ancient Peruvian funeral urn, well characterized in the heliotype which accompanies this article, is one of the oldest distinct and well authenticated representations of a labor case which is extant. The method of delivery followed by those, at that time, highly civilized people, a thousand or more years ago, seemed to me so peculiar that I was anxious to know whether other people had similar curious customs and whether any traces of these could be found at the present day; moreover, it appeared to me as if a study of obstetric customs among the more primitive people might lead to valuable results which

would serve to guide the practice of the present day. My interest was thoroughly aroused, and by the kind offices of the gentlemen in charge of the Library in the Surgeon-general's office its fund of well-arranged material was kindly placed at my disposal, so that I was enabled at once to enter upon the study of the subject which had so deeply engrossed my attention. I found an extensive literature relating to the subject of posture in labor, but it turns entirely upon the discussion of the relative merits of the dorsal decubitus, as practised upon the continent of Europe and in America, and the left lateral position, which is favored in England; perhaps, also, the knee-elbow position may come into question, but the discussions are entirely confined to the merits of those positions which are taught by modern obstetric law, and enforced in all civilized communities of the present day where scientific medicine rules. Some had gone beyond this and had attempted to determine the natural position of woman in labor by the study of the position which had been occupied by unfortunate girls, in concealed or secret parturition; thus Schütz,¹ and Dr. Cohen v. Bären in Posen, who cites one hundred such cases; fifty of which occurred in unusual positions: thirty standing, eighteen crouching or squatting, and two kneeling. Of the fifty cases recorded by Schütz, thirty-two — over half — occupied abnormal positions: fourteen standing, sixteen crouching or squatting, two kneeling. Nægele, on the contrary, sought to discover the natural position in labor by secretly observing the movements of an inexperienced girl who was left alone, while in pains, in a room furnished with a bed, chair, sofa, and an obstetric chair. The girl took all possible positions and was finally delivered tossing about on the bed; she had sought the obstetric chair but gave it up after a moment's trial which appeared so conclusive to her mind that she did not repeat the attempt. Hohl² in his clinic made an attempt to see whether women could be confined standing, and, though a great many had been urged to try,

¹ *Verhandl. d. Gesellsch. f. Geburtsh. in Berl.*, iv., page 37.

² *Lehrb. d. Geburtsh.*, 2 Aufl., Leipzig, 1862, page 114.

only one, induced by a considerable bribe, had been able to complete her labor in this position; hence, he concluded that all accounts of women being thus confined must be false — an erroneous conclusion, as I shall hereafter show. The first who departed from the beaten track and entered upon the proper course to determine the natural position of women in labor, namely, by historical and ethnological researches, was Rigby, in his paper, published in the "Medical Times and Gazette," for 1857,¹ "What is the natural Position of Women During Labor?" He refers to the methods previously followed, then traces those peculiar positions which are still customary in secluded parts of England, Scotland, Wales, and Ireland, and seems to come to the conclusion that accidental circumstances determine in a great measure the position which the unassisted woman assumes when seized with violent pains effecting the expulsion of the child; that she probably walks or tosses about, finally to be delivered in a recumbent position; and rather seems to indorse the views of his West India correspondent, "That there is no natural position, in labor, for the native women, any more than for a man with colic or a West India dry belly."

The next and most complete work on the subject was by Dr. H. H. Ploss,² "Ueber die Lage und Stellung der Frau während der Geburt bei verschiedenen Völkern." He, without entering upon a theoretical discussion of the question, gives us the results of his very thorough study of the positions occupied by women in labor among the ancients and among the uncultured and savage races of the present day. He recognizes the positions assumed as: *Firstly*, recumbent in a more or less horizontal position. *Secondly*, sitting: (a.) in bed; (b.) on a stool; (c.) on a chair; (d.) on a cushion; (e.) on the thighs of another individual. *Thirdly*, standing. *Fourthly*, kneeling. *Fifthly*, squatting. *Sixthly*, swinging. *Seventhly*, suspended in an erect posture. I shall not infrequently refer to the authorities quoted by Dr.

¹ Vol. xv., page 345.

² Leipzig, 1872.

Ploss, although in some cases the details of reports, which I have obtained, vary decidedly from the often very meagre statements made by him; and in other cases he has based his assertions upon very questionable and indefinite accounts of travelers, which he has evidently made use of in order to make his paper as complete as possible. In the main it is a sound paper showing a great deal of profound research among the best of authorities, ancient and modern. I cannot, however, agree with his conclusion, namely, "that among the majority of people the parturient women assume the recumbent position." He seems to think that, though not necessarily in an entirely horizontal position, she is delivered lying upon a bed or a couch of some kind.

I might add that in 1870, a paper appeared in Breslau, by H. v. Ludwig,¹ in which the author, upon theoretical grounds, advocates the kneeling or squatting positions to be assumed during the expulsion of the child, and insists that the women of savage races, of people who still exist under the most natural conditions, instinctively assume these positions. As soon as my attention had been once directed to this subject by that remarkable funeral urn, representing the custom of the ancient Peruvians, and I had entered upon the study of the posture occupied during labor by the women of other people, I found a great variety in their customs; but it soon became evident, and impressed itself forcibly upon my mind, that the *recumbent* position in labor is rarely assumed among those people who live naturally and are, as yet, governed by their instincts and have escaped the influence of civilization and of modern obstetrics. It certainly appeared as if the ordinary obstetric position of to-day must be an unnatural one, and in order to study the question as to what is the natural position of women in labor, the proper and only course to be followed seemed to me to investigate:—

1. The position occupied by women in labor among the

¹ "Warum lässt man die Frauen in der Rückenlage gebären?"

nations of the past; especially among those who boasted of higher civilization.

2. To observe the position assumed by women in labor among savage races of the present day whose movements are still governed by instinct.

I deem it a great mistake that we in this age of culture, should follow custom or fashion so completely, to the exclusion of reason and instinct, in a mechanical act which so nearly concerns our animal nature as the delivery of the pregnant female. If we wish to obtain an idea of the natural position we must look to the woman who is governed by instinct, not by prudery; and it is only among the savage races that we shall find her at the present day. In this purely animal function instinct will guide the woman more correctly than the varying customs of the times.

3. In our obstetric practice of to-day to observe the movements of women and the positions which they involuntarily assume in the agony of the expulsive pains when instinct comes forward, to the exclusion of every other feeling. I have accordingly —

1. Sought such information as history could give me — as could be afforded by our larger libraries, especially that of the Surgeon-general's office in Washington; and I have made free use of the references given by Ploss in his work already referred to, and by Goodell,¹ in his instructive paper on "Some Ancient Methods of Delivery."

2. In order to obtain information as to the positions assumed by those people among whom no modern obstetric law or custom as yet prevails — among the savages of the present day — I have corresponded with leading obstetricians in foreign countries, as well as travelers who were likely to assist me in this inquiry. I have sought information from physicians in various portions of our own country, partly by correspondence, partly by questions kindly put to their readers, by a number of our medical journals. The most valuable information, however, I have obtained through circulars sent to the medical officers of the army and the

¹ *Am. J. Obst.*, February, 1872.

physicians to the Indian Agencies, through the Bureau of Ethnology of the Smithsonian Institution in Washington.

3. I have made it my duty to observe the positions assumed by women at the very moment of the expulsion, during the agony of the last pains.

The subject will be divided as follows : —

THE INTRODUCTION.

PART I., treating of the position of women among people whose labor is governed by instinct and not by prudery or the laws of obstetrics.

PART II. The position of women among civilized races of the present day, in the agony of the expulsive pains.

CONCLUSIONS ; and these, I will briefly state, are : that the semi-recumbent and inclined positions are the correct ones for the parturient woman, — anatomically, theoretically, and practically, — and that we have unquestionable ethnological proof of this assertion. We must resume the semi-recumbent position, and it becomes a question whether we should return to the obstetric chair or not.

I have classified the positions, according to the inclination of the axis of the body, into : The perpendicular or upright, the inclined, and the horizontal or recumbent.

A. Perpendicular : —

1. Standing.
2. Partially suspended.
3. Suspended.

B. Inclined : —

1. Sitting erect on stool, cushion, or stone.
2. Squatting, as in defecation.
3. Kneeling.

(a.) With the body inclined forward, and resting on a chair or staff.

(b.) Knee-elbow position, knee-breast, or knees and hands.

(c.) With the body erect or inclined backwards.

(d.) Not definitely described.

4. Semi-recumbent.

(a.) Sitting semi-recumbent on the ground, a stone, or stool.

(*b.*) On the lap or between the thighs of an assistant who is seated on a chair or on the floor.

(*c.*) The obstetric chair.

(*d.*) Semi-recumbent positions, strictly speaking.

C. Horizontal or recumbent.

(*a.*) On the back.

(*b.*) On the side.

(*c.*) On the chest and stomach.

I have been aided in this work by so many kind friends and fellow practitioners that I feel it my duty to express my thanks to, at least, some of them, for the valuable assistance rendered. Dr. Isaac Coates, formerly of Chester, Penn., gave the impulse to this undertaking by kindly permitting me to photograph the historic urn which he unearthed from its resting place, that it might reveal to us the life of a people long since passed away; and it is owing to the efforts of Dr. Anna E. Broomall that I was actually enabled to do this. The kindness of Drs. Billings and Fletcher readily enabled me to obtain much important information from the vast and well catalogued materials of the Surgeon-general's library. To Dr. H. C. Yarrow my especial thanks are due for his unceasing efforts in the interest of this undertaking; his position and his researches in the library of the Surgeon-general's office enabled him to extend to me many favors; with the consent and at the direction of Major J. W. Powell, in charge of the Bureau of Ethnology of the Smithsonian Institution, aided by other friends, he has sent out a series of circulars to the surgeons of the army and Indian Agencies requesting information as to the obstetric practices among our North American Indians; I also gratefully acknowledge my indebtedness to the medical officers of the United States army, and the physicians to the Indian Agencies, for the valuable information given, and their cheerful and generous response to the circular sent. Dr. Raoul Fauquez, of Paris, had the kindness to offer information upon the subject in the various departments of France. Several of our medical journals placed before their readers

my questions as to the obstetric practices in remote regions of this country, and numerous professional friends throughout the entire land have given me valuable information as to the country practice in earlier days. Mr. Ad. Bandelier, that ardent archeologist from our neighbor State, gave me an insight into the customs of the natives at the time of the conquest by reference to his valuable library of ancient Spanish authorities. To my friend Dr. C. W. Cooper I owe thanks for valuable assistance rendered throughout the entire work.

Quite a number of the instructive illustrations I owe to the genius of St. Louis' talented artist, Mr. Carl Guthertz; whilst Dr. H. H. Ploss, of Leipzig, has permitted the use of several of the cuts from his own work.

GEOGRAPHICAL DISTRIBUTION.

Europe.

The dorsal decubitus, with the woman recumbent in bed, is now almost universal, having superseded the obstetric chair of the beginning of this century. Peculiar positions are still found here and there in remote districts.

France. A standing position is occasionally assumed.

Italy. Semi-recumbent on the lap; and in earlier days knee-elbow, semi-recumbent in bed, and erect, clinging to the neck of an assistant.

Spain. Kneeling.

Germany. Standing; on the lap of an assistant; partly suspended; semi-recumbent in bed, or in a sling.

Russia. Erect, wholly suspended; squatting; kneeling; sitting erect and in the lap of an assistant.

Sweden. Recumbent.

Greece. Kneeling and semi-recumbent in bed, or on a low stool reclining against an assistant, in ancient Greece. In later times, recumbent in bed, or semi-recumbent on a low stool, reclining against an assistant, which appears still very common.

Turkey. Chair; sitting on a stool.

Great Britain. Clinging to the neck of an assistant; kneeling, arms resting on a chair or in the lap of an assistant; knee-elbow position; sitting on a low stool; squatting; sitting semi-recumbent in the lap of an assistant (several of these positions have been frequently observed in Irish or Welsh emigrants in this country).

*Asia.**Kamtschatka.* Kneeling.*Mongolia.* Kneeling.*China.* Chair or bed.*Japan.* Chair, semi-recumbent, or kneeling erect on the floor.*Philippine Islands.* Standing.*Sumatra.* Recumbent.*Siam.* Recumbent; lying on the side or back.*Burmah.* Recumbent, on the back.*India.* Standing; on the lap; sitting on a cushion or stool; recumbent in bed.*Andaman Islands.* In the lap of the husband.*Persia.* Squatting or kneeling.*Arabia.* Squatting; semi-recumbent on the chair or the lap; or on two flat stones clinging to a rope.*Palestine.* Chair.*Syria.* Rocking-chair; semi-recumbent.*Hebrews.* Semi-recumbent (on stones or a stool) and squatting.*Cyprus.* Semi-recumbent on a stool (ancient and modern).*Africa.**Egypt, ancient.* Squatting.*Egypt, modern.* Chair.*Abyssinia.* Kneeling; sitting on a stone, reclining against an assistant or a tree.*Ethiopia.* Kneeling; standing.*Dar-Fur.* Standing.*East Africa.* Standing; sitting or squatting.*Somali.* Standing, holding on to a rope.*Wakamba.* Standing, bent over backwards.*Kaffraria.* Squatting.*Hottentots, Cape of Good Hope.* Standing.*Old Calabar.* Sitting on a chair or block.*Wazegua.* Squatting.*Canary Islands.* Sitting erect.*North America.**Canada, French settlers.* Semi-recumbent on the floor, back against an inclined chair.*Canada, Iroquois.* Standing, clinging to the neck.*Mexico, Indians, half-breeds, and lower class of whites.* Kneeling, clinging to a rope or the neck; squatting; standing, and semi-recumbent on the lap and in bed.*United States, Caucasians descended from various European races.* Kneeling; squatting; sitting on the husband's lap; semi-recum-

bent in bed or on the floor, against an inclined chair; standing, and knee-elbow position.

United States, Negroes. Kneeling, head in the lap; squatting; suspended from the limb of a tree.

United States, Indians. Mostly kneeling, clinging to a tent-pole, the body inclined forward, or to a rope or horizontal staff, the body inclined back; often squatting; occasionally sitting semi-recumbent in the lap or on the floor; semi-recumbent, or kneeling erect; more rarely recumbent; standing erect, clinging to the neck of an assistant; tied to a tree, or suspended; and the knee-chest position.

Central and South America.

Nicaragua. Kneeling.

Guatemala. Squatting.

Venezuela. Semi-recumbent, seated in a hammock.

Peru, ancient and modern. Semi-recumbent in the husband's lap.

Chili. Semi-recumbent in the lap.

Brazil. Recumbent on the ground or in a hammock.

Australia and Surrounding Islands.

Australia. Sitting erect; recumbent.

Ceram. Standing erect; suspended.

Polynesia. Squatting.

West Micronesia. Squatting.

New Zealand. Kneeling.

Sandwich Islands. Semi-recumbent on the lap, or lying on a mat.

PART I.

Position of Parturient Women among People whose Parturition is governed by Instinct and not by Modern Obstetric Fashion.—Among the Ancients.—Among the Savage or Uncivilized Races of the present Day, and in Remote Districts of Civilized Countries.

I HAVE, as already stated, determined to classify the various positions, as nearly as possible, in accordance with the position assumed by the axis of the body, and shall hence consider first: A. The Perpendicular or Upright Positions; then B. The Inclined Positions; and finally C. The Horizontal or Recumbent Positions.

A. PERPENDICULAR OR UPRIGHT POSTURE.

Under this heading I shall discuss, individually, those positions in which the body is erect or almost so, and, in accordance with some slight variations, will distinguish: 1. *The Standing*, 2. *The Partially Suspended*, 3. *The Entirely Suspended Positions*.

I. STANDING.

We shall find this apparently uncomfortable position assumed even at the present day, and in our own country: Thus, Dr. H. F. Campbell, of Georgia, writes me that he has delivered a patient standing, clinging to the bed-post, who would rather dispense with his services than assume any other position. Among our Indians it is rarely observed, although I have been informed by a correspondent that the Sioux women are delivered standing erect; I think

that we shall find a partially erect, partially standing, position more frequent among them. The natives of the Antilles, if we may accept so venerable an authority as Fray Juan de Torquemada, are confined standing, but also at times assume the kneeling or recumbent postures. In France it seems to have been quite a common position in some of the interior departments, as Godefroy¹ warns his colleagues never to permit the women to be confined in a standing posture, as hemorrhage, prolapse of the uterus, and rupture of the perineum are more apt to ensue than in any other. During the past century it seems to have been the most common position among the Slavonians in the mountainous regions of upper Silesia, where, in 1747, a physician, in his book on midwifery, even advises such patients as do not wish to be confined in bed to assume this position, with some strong person supporting them from behind and holding their arms, whilst others hold the separated legs, and the midwife sits comfortably in front.²

The Hindoos, especially upon the eastern coast of India and in the vicinity of Madras, are delivered in an erect, standing posture, supported by an assistant under each shoulder — the midwife attending to her duties, being seated in front of the patient,³ and whether rare or not at the present day the position is certainly traditionary, as bas-reliefs still exist upon the ancient Indian monuments which represent the act of delivery in this very same way.

In Central Africa, and near the Cape, among the Boers, the standing posture is not uncommon. Among the Negritos, upon the Philippine Islands, the parturient woman assumes the standing position, but apparently bent forward a little, as she supports the abdomen against a bamboo cane planted in the ground, thus apparently exercising some pressure upon the uterus.⁴ Among the Wakambas, in Africa,

¹ *Revue de thérap. méd.-chir.*, Par., 1864, No 9, page 227. Ploss, p. 38.

² Ploss, *Die Lage und Stellung der Frau während der Geburt*, Leipzig, 1872, p. 38.

³ J. A. Robertson, *opprak. jutschr.*, 1847, v. 6. H. B. French.

⁴ Mallat, *Les Philippines*, 1846. *Ztschr. f. Ethn.*

the patient assumes the standing posture assisted by two friends, but bends over backwards, and a third is seated in front to receive the child.¹

A similar position is shown in an old painting in the Academy of Medicine in New York. (See Fig. 3.) The



FIG. 2. — Labor Scene among the Wakambas. (Western portion of Central Africa.)

history of this picture, which represents some mythical or mythological scene, I cannot trace, but the artist has certainly depicted the custom of his period in the position

¹ J. M. Hildebrandt. "Ethnographische Notizen über Wakamba und ihre Nachbarn," *Ztschr. f. Ethn.*, Berl., 1878, vol. x., page 394.

assumed by the parturient. For this reason it has appeared to me of sufficient interest to place it side by side with the labor scene among the less fanciful Wakambas.

The Loangos, in Equatorial Africa, are delivered standing, leaning against the wall of the hut, or kneeling, the head resting upon the arms. The reason assigned for this procedure is that they expect to obtain the desired head presentation by assuming these positions. In difficult labor



FIG. 3. — Mythical Labor Scene.

the patient is placed upon her face and chest, and finally upon her back, and choked and kneaded until an expulsion in some direction is accomplished.¹

2. PARTIALLY SUSPENDED.

Parturient women endeavor to assume this position of partial suspension in various ways. Some hang to the neck

¹ *Indiscretos aus Loango*. Dr. Peschuel-Loesché. *Ztschr. f. Ethn.*, 1878, x., p. 29.

of a husband or friend, others swing themselves by a rope from the branch of a tree, while some are tied up until the act is over, as if undergoing punishment. The squaws of the Brulé Sioux, the largest branch of the great Sioux Nation, are confined in the midst of a crowd of indifferently solicitous relatives and friends, one or more matrons always being present as midwives.

In the first stage of labor, that is, prior to the expulsion of the *liquor amnii*, the squaw sits or lies upon the ground groaning vociferously; during the expulsion of the fetus, her posture is erect or nearly so, with her arms about the neck of a stout male supporter, and I am informed upon credible authority that the young bachelor bucks are most frequently chosen for this service.

The women of the Iroquois in Canada, are all confined standing, generally leaning on a friend's shoulder, whilst the child is taken by the midwife behind the patient. The position is probably the same as described among the Sioux.

In Japan this position is resorted to in the attempt to correct malpositions in the earlier months of pregnancy. The Japanese medical man makes the patient stand up and put her arms around his neck; he then presses his shoulder against her breast, and his knees between hers in such a manner that she is firmly supported, and, while in this position he manipulates, performing lateral massage with his hands, beginning with the seventh cervical vertebra and bringing them downward and forward, snapping his



FIG. 4. — Brulé Sioux. Standing.

fingers to distract the attention of the woman. Finally, he rubs the nates and hips with the palms of the hands forwards, beginning at the sacrum, and repeating the movement sixty or seventy times. This process is repeated every morning after the fifth month.¹

The "New York Medical Record" adds, that the accoucheurs are, in Japan, as a rule, advanced in age. If this custom is found in our own country it certainly comes to us from some of the inland countries of Europe. Thus, Spence, in his "System of Midwifery,"² says that the position which is very frequently practised in the northern portion of Scotland, is that of hanging about the neck of a person as tall, or, if possible, taller than herself, who gently supports the patient's back, and with her knees fixes the knees of the woman in labor. In Italy it was Savonarola, who died in Padua in 1460, who taught that in difficult labors the parturient woman should either hang to the neck of a stout person or assume the knee-elbow position.³

The practice in some Mexican families⁴ is to keep the woman in an upright position, with the knees and thighs slightly flexed, the feet wide apart, while she supports herself by two ropes suspended from above. He adds that massage is very freely resorted to, but no binder is at any time used.

We find precisely the same position in Africa among several native tribes. Thus, the Somali women assume an erect posture, partially suspended by a rope during the expulsion of the child, which is received by a family attendant or midwife.⁵ So, also, we find that the women of Dar Fur, on the Nile, are delivered standing, with the legs separated,⁶ holding on to a rope.

¹ *La France médicale.*

² Edinburgh, 1784.

³ Siebold, vol. i., page 352. Ploss, page 44.

⁴ Dr. Joseph K. Carson, post-surgeon at Fort Yuma, Cal.

⁵ J. M. Hildebrandt, *Ztschr. f. Ethn.*, 1878, vol. x.

⁶ "Dar Fur on Nile," *Skizze der Nil Lander*, 1866, page 405.

A somewhat more barbarous custom is that followed by some of our North American Indians, and by the inhabitants of Ceram, an island north of Australia, namely : they tie the patient to a post or tree, with the hands above the head. The Coyoteros are in the habit of tying their women, in labor, to a tree, with the hands above the head,



FIG. 5. Ceram. Standing, and suspended.

and leave them in this position until the child is born. This cruelty does not appear to affect them in any perceptible manner, and they recover from it in a much shorter time, and resume their avocations sooner, than the most ro-

lost white women.¹ The natives of Ceram hastily construct a rude hut of leaves and brush for the parturient woman, and an old hag, who assists as midwife, ties the patient, with her arms as high as possible, to a tree, so that the balls of the feet barely touch the ground, whilst she herself takes a more comfortable position before the parturient, and receives the child in a large leaf, a mat, or an old piece of cloth. Labor over, the young mother washes herself, or takes a bath, and immediately returns to her village and to work.²

3. SUSPENDED.

Not unfrequently the negroes in our southern States still follow the customs brought from their African homes, or merely handed down by tradition; in their method of delivery they do not vary from that of the tribe from which they sprang. Occasionally the erect posture is taken, and a graphic description of such a labor has been given me, as witnessed in Louisiana. A negress gave birth to a child while hanging on to the limb of a tree. She would raise herself from the ground during the pains, whilst the assistant who was with her took charge of the child after it was born.³

In some portions of Finland, among the Esthen, as well as in some portions of Russia, the women are delivered in a similar manner while hanging to a cross-bar; they attempt, as it were, to shake out the child.⁴

We have the authority of *Father Och* that, in Brazil, the parturient woman occasionally has her arms tied to a tree, while she is waited on by some old hags until the delivery is completed.⁵

In some portions of Germany, though the instances are

¹ Dr. W. J. Heilmann, *Miscellaneous Ethnological Observations among the Indians in Nevada, Colorado, and Arizona*, p. 471. Haydens' *Survey*, 1876.

² Captain Schulze, "Ueber Ceram," *Ztschr. f. Ethn.*, 1877, p. 120.

³ Dr. A. V. Forquey, of St. Louis.

⁴ Kredel. Ploss, p. 43.

⁵ Marr, *Nachr. v. Span. Amerika*, i., 202.

rare, the woman is delivered suspended in the arms of her husband, who seizes her from behind and raises her up, so that she is bent backward to such a degree that the tips of the toes barely touch the ground.¹



FIG. 6. Southern Negroes. Suspended.

The Siamese, who use massage freely, are usually delivered in the dorsal decubitus ; but in difficult cases, when even tramping upon the abdomen is not attended with success, as a *dernier ressort*, they suspend the patient by means

¹ Hohl, *Midwifery*, second edition, 1862, p. 444.

of a band beneath the arms, and one, sometimes two, of the attendants then clasp with their arms the body of the parturient, and suspend themselves also: this expedient seldom fails to produce a rupture in some direction, be it the uterus, the perineum, or the encephalon of the child.

B. INCLINED POSITIONS.

This class, which we shall find, by far, the most common among civilized and savage people, ancient and modern, I have divided into four kinds, though the first one may not, perhaps, with the greatest propriety, be called an inclined position.

1. The erect, sitting posture.
2. The squatting position, as in defecation.
3. The kneeling posture and its modifications; and finally, —
4. The semi-recumbent position, whether on the lap of an assistant, in a chair, on the floor, or in bed.

I. SITTING ERECT.

I hardly know whether to consider the erect sitting posture as an inclined or an upright position, but, as the pelvic axis is certainly more inclined than in the standing posture, and, as it will be very hard to draw a line between the distinctly erect sitting posture and the somewhat inclined, I have determined to place it among the inclined, and to consider it first under this head, because it is most nearly related to the perpendicular or upright. Women confined in this position make use of cushions, stones, stools, or mother earth herself; but the temptation to assume a somewhat reclining position, leaning against the assistant or some other support, is so great, that it is difficult to say with precision that the erect sitting posture is assumed, as the notes upon the subject, by most writers, are not sufficiently clear. I can find but one distinct description of a labor in which it is stated that the patient was confined sitting upright, and that this is the usual position among native

Australians, the weak women only lying down when in labor.¹

The Nayer women, of Malabar, are confined while seated upon a cushion, or a low three-legged stool without a back, and are supported by the midwife, or some female relative. As is so common among savage races, they then bathe in the nearest stream, or other convenient water, immediately after delivery, and resume their work, as far as is permissible, in the state of uncleanness in which they are considered to be after labor.²

In a similar way the native woman of Guatemala, South America, is confined. She is seated on the ground, supported by a midwife, who presses one knee into the small of her back.³

In Calabar, Africa, the same position is assumed, the woman sitting on a low chair, or block, while the midwife squats in front of her, pressing the sides of the abdomen.⁴

On the Canary Islands, the parturient woman sits upon the floor, with a chair or other support beside her, upon which her arms rest. In Astrakhan, in Russia, she sits in a similar way between two boxes or trunks, upon which her arms rest.⁵

A sitting position, with the body decidedly bent forward, was observed in a Sioux squaw, who, like her sisters among most of the Indian tribes, sought a solitary confinement upon the banks of a stream.⁶ The position of this woman, until the expulsion of the child, — about forty minutes, — was crosslegged on the floor, her arms crossed over her breast, head bowed, and the body bent forward, especially

¹ Hooker, *Journal of the London Ethnological Society*, April, 1860, p. 68.

² Herr N. von Mikluček-Macklay, "Anthropologische Notizen gesammelt auf einer Reise in West Mikronesien und Nord Milanesien," *Ztschr. f. Ethn.*, 1876, p. 126.

³ Bernouilli, *Schweiz. Ztschr. f. Heilk.*, Bern, 1864, i. and ii., p. 100. Ploss, *Die Lage und Stellung der Frau während der Geburt*, Leipzig, 1872, p. 20.

⁴ Hewan, *Edinb. M. J.*, September, 1864, p. 223.

⁵ H. Meyerson. Ploss, p. 20.

⁶ Surgeon B. B. Taylor, U. S. A.

during the pains: the legs were crossed below the knee, and in such a manner that the thighs were widely separated. I may, perhaps, add, though it is of little practical interest, that according to the Egyptologist, Professor Ebers, a

hieroglyph is frequently found on some of the old Egyptian monuments which represents a woman sitting cross-legged, and seems to represent the act of expulsion.¹



FIG. 7. — Sioux Squaw.

2. SQUATTING.

This position naturally follows the erect sitting posture, although the body is always inclined forward to a certain degree; it is hardly to be defined with exactness, yet we may, in a general way, consider all postures as squatting which

resemble that assumed in defecation. Though apparently inconvenient, and repugnant to the refined woman, this position is certainly the most natural one for expulsion from the abdominal or pelvic viscera, and will certainly, in many cases, facilitate labor. Thus a friend relates his experience: A colored woman, a house servant, carefully reared, who had undergone several very difficult labors, in her fourth or fifth pregnancy, feeling a little uncomfortable, and desiring to be ready, took a pail and went to a pump for water. She carried it for twenty or thirty steps, and arriving at the gate, felt violent contraction. She set the pail down, squatted, and was delivered of her child.

“So easily she yields her bosom’s load,
You’d almost think she found it in the road.”²

¹ Ploss, p. 36.

² Dr. Campbell, of Augusta, Ga.

In other confinements she had assumed the squatting position, and was easily delivered.

Then, again, he tells me of attending a lady of good position in society in two labors. "In her first labor, delivery was retarded without apparent cause. There was nothing like impaction, or inertia, yet the head did not advance. At every pain she made violent efforts, and would bring her chest forward. I had determined to use the forceps, but just then, in one of the violent pains, she raised herself up in bed and assumed a squatting position, when the most magic effect was produced. It seemed to aid in completing delivery in the most remarkable manner, as the head advanced rapidly, and she soon expelled the child by what appeared to be one prolonged attack of pain. In subsequent parturition, labor appeared extremely painful and retarded in the same manner; I allowed her to take the same position, as I had remembered her former labor, and she was delivered at once, squatting."

The Irish, also, are familiar with this most natural of all positions, although the knee-elbow position is more common among them. A striking instance is related to me of a poor Irish woman who was found upon a vacant lot in New York city, squatting upon the ground, endeavoring to express the placenta, the child having already been delivered in the same position.¹

Dr. John Williams, physician to the Green Bay Indian Agency, seems to consider with great favor this position as assumed by the Pawnee Indians. He has had extensive experience as Agency physician, having been associated with different tribes of Indians in different localities, and he does not think that climate has anything to do with the labor of the parturient woman. He says: "I am satisfied that the Pawnee Indian women are far more exempt from the maladies resulting from parturition than the Menominee, Stockbridge, or Oneidas of Wisconsin. Possibly this may be attributed to the position assumed during labor. The position of the Pawnee woman in parturition is gener-

¹ Dr. F. A. Castle. New York.

ally a squatting one with the Indian woman who assists her squatting at her back, the two being back to back, and the accoucheur, who is generally a medicine man, in front of her upon his knees, with a gourd in one hand, which he rattles constantly, and a pipe in his mouth which he smokes, blowing the smoke under the clothes or covering of the patient until after the delivery of the child." Evidently, a warm vapor bath to soften the parts. Precisely the same position is assumed in West Micronesia, where the mother, during the expulsive pains, assumes a squatting — half-sit-



FIG. 2. — PAINFUL LABOR.

ting, half-lying position, her back resting against the back of an assistant.¹ So also the Wazequa women squat during labor.²

Others of our Indians, than those already mentioned assume this position, with slight variations. Thus³ the Nez-Percés and Gros-Ventres: during the first stages of

¹ Herr von Micklucko-Macklay, *Ztschr. f. Ethn.*, 1876, page 105, "Anthropologische Notizen," etc.

² J. M. Hildebrandt, "Ethnographische Notizen." *Ztschr. f. Ethn.*, 1878, vol. x., page 394.

³ Major Chas. R. Greenleaf, Surgeon U. S. A.

labor the woman is in a stooping posture, with the buttocks resting on the heels. An assistant places herself back of the patient, clasping her body with her arms, letting the fingers reach below the ribs over the base of the uterus, making steady pressure backwards and outwards during the pains. During the third stage, or expulsion of the child, the patient, however, lies down indifferently on either



FIG. 9.—Squatting Posture of the Tonkawas.

side or on the back, while the pressure by the hands of the assistant is kept up continuously, if on the side; if on the back, the assistant remains by the side of the patient and keeps up the pressure in the before-mentioned directions. In difficult labors the knee elbow position is assumed. The Tonkawas retain the squatting posture until after the expulsion of the child:¹ so also the Coyotero or White Mountain Apaches: "The Coyotero squaw occupies any position she pleases, generally standing or walking, until bearing

¹ Wm. R. Steinmetz, Surgeon U. S. A.

down pains supervene, when she assumes the squatting posture until after the birth of the child and placenta; but in tedious cases the patient is suspended in a half kneeling position by aariat from the limb of a tree and the child stripped out, as it were." ¹

A slight variation of this position is found among some of the larger branches of the Sioux Nation, the Brulé, Loafar, Agallala, Washack, and Northern, who stoop, and with their hands grasp deer-thongs attached to stakes driven into the ground, against which they pull. ²

The Mexican half-breeds, in New Mexico and vicinity, sometimes suspend a cord from the ceiling, with a stick attached, so that the women can seize it in a half-upright, squatting position. ³ The same we find among the Kal-mucks upon the borders of China and Russia, and not unfrequently during the third stage of labor they squat lower in bed on their heels, whilst holding with their hands on to a pole, the abdomen being pressed from behind by an assistant. ⁴

The squatting position, with the body bent forward, is assumed by the women of Southern Arabia in the vicinity of Aden, who, however, rest their hands upon the ground instead of crossing them upon the breast, as the squaw does. But, among these people, as among so many of our Indians, and the tribes of Africa, massage is freely resorted to if any obstruction seems to prevent the labor, sometimes with the hands, sometimes with the feet; in the latter case, the assistant, standing with her heels upon the lower ribs, works the fundus of the uterus with her toes. ⁵

Every people varies its customs a little. The Polynesian and Australian negroes squat, as in defecation, over a small hole which they have scratched in the ground for the reception of the child. ⁶ Ploss also states, upon the author-

¹ Walter Reed, M. D., Asst. Surgeon, U. S. A.

² W. H. Faulkner, M. D. ³ H. R. Tilton, Surgeon U. S. A.

⁴ Krebel, *Volks Med.*, page 55. Ploss, page 43.

⁵ Hildebrandt. *Ztschr. f. Ethn.*, 1878, vol. x., p. 394.

⁶ Ploss, p. 42.

ity of Dr. Pollak, physician to the Shah, that the Persians are sometimes confined squatting on the ground, cross-legged, sometimes kneeling or sitting cross-legged; but it seems that the most popular position, and the one which appears to me to be far the most natural, and which bears a strong resemblance to our semi-recumbent position, whether in bed, or in the obstetric chair, or on the husband's lap, is the squatting position, as represented in the illustration of a woman with her legs apart, supporting herself upon her arms on a pile of three bricks, which she has placed on



FIG. 10. Obstetric Position of the Persians. — From Ploss (after Pollak and Haentsche).

either side of her. In this position we have a remarkable illustration of the points which are developed in every perfect obstetrical position, namely, absolute relaxation of the muscles of the lower extremities and the pelvis, and separation of the limbs, in order to allow space for the passage of the child. The strain, if there be any, being upon the muscles of the arms and the chest.

The Zuni women of New Mexico are delivered in this same position, which we may call a squatting one, and which is described to me as "half standing and half sitting;" an attendant supports the patient, and facilitates expulsion by pressing the abdomen from above downward.¹

¹ T. F. Ealy, M. D.

In the neighboring Laguna Pueblo pretty much the same custom is followed. In the early stages of labor the patient stands, as she urinates, with her hands on her knees; later, she stands up, supported by a woman on each side, or a rope is cast over a joist of the roof and allowed to hang down in a wide loop; she puts her breast in the loop and holds on to the ascending ropes, her feet on the floor, in a half-sitting (squatting) posture, thus obtaining great expulsive force; if tired and worn, she lies down. All these positions are assumed at the choice of the patient or the advice of her assistants, two to six in number.¹

3. KNEELING.

The kneeling posture, like some other positions which appear to us peculiar, is a historical one. It is referred to in the Bible, as well as by the Roman poets. It was taught in ancient Rome, among the Arabs, and in Germany during the Middle Ages, and definite rules were laid down for the circumstances under which it should be resorted to. At this present day it is still, at times, adopted in the rural districts of our own States, and more frequently than we should suppose in our cities. It is that position which is, perhaps, most universal among our Indians, that is, among what we may call the blanket Indians, those who have not yet partially succumbed to the advances of eastern civilization. Some of our ablest obstetricians, Fellows of this Society, who have given me their opinions upon the kneeling posture in labor, differ in their views in regard to its advantages and disadvantages; to one it seems physiologically correct, and appears most practically to favor the expulsion of the child, whilst it is frowned upon by another as liable to be followed by hemorrhage. We, however, do not hear of this as a frequent occurrence among the Indians, where the position is so common; in fact, we neither hear of this nor any other accident consequent upon labor, not even of prolapse, which might be supposed to follow; probably, because the position is only assumed during the

¹ John Menaul, U. S. Teacher.

advent of the more severe pains, and in the very last stage of labor.

If I may make a broad assertion, the kneeling posture seems most common among the red and yellow races ; our Indians mainly being delivered kneeling, with the body inclined forward ; whilst the Mongolians seem, as a rule, to retain the body more erect. I have classified the kneeling positions as follows :—

(a.) The body inclined forward.

(b.) This position overdone ; that is, with the body thrown



FIG. 11. —Southern Negress.

completely forward, the patient resting on the hands and knees, or knees and elbows.

(c.) The body erect or inclined backward, sometimes clinging to a rope.

(d.) Kneeling postures, where precise descriptions are lacking.

a. Kneeling, the Body inclined Forward.

It is the custom of most writers upon this subject to refer, like Legros,¹ Goodell, Ploss, and others, to the labor

¹ "De la position de la Femme pendant l'accouchement," *Gaz. des hôp.*, 1864, p. 133.

of Latona, whom Homer, in his hymn to Apollo, represents as being delivered whilst kneeling upon the soft meadow, clasping a palm tree. A somewhat more precise, though less poetic, description is given me of the labor of a Georgia negress: the physician being called in great haste, found his patient kneeling on a mat, placed on the floor, with her head and elbows resting on the seat of a rocking chair, the thighs perpendicular, and the body nearly horizontal. The head had been born, but the shoulders resisted. Observing his patient for a few moments, he found that during the pains her body would move backward so that her buttocks rested upon her heels, whilst in the interval she would glide forward again, so that the thighs became perpendicular and the body horizontal. By his assistance, she was delivered of an enormously large child.¹

In a previous labor she had been confined in a similar position, resting head and arms in the lap of her mistress; precisely the same position which the squaws of the Umpqua tribe, in Oregon, are in the habit of assuming. Let us look in upon a scene of this kind.

The patient was found in a lodge, roughly constructed of lumber and drift-wood; the place was packed to suffocation with men and women, the stifling odor from sweat and smoke and stench of whale oil, rendered the lodge unendurable for more than a few moments together. The parturient, situated in the centre of the place, was entirely naked excepting a covering by a dirty blanket, which was thrown across her loins. Her head and shoulders were supported in the lap of an old squaw, while her thighs were stoutly pressed against the pelvis by a squaw on each side, who were engaged in crowding the uterus downward in a brutal manner with their clenched fists, occasionally giving it a lateral motion; another squaw sat between her knees, with her hands under the blanket, ready to receive the child when it came. The crowd in the lodge all the while kept up a deafening din by crying, shouting, pounding on tin vessels, and thumping up against the roof with poles;

¹ Dr. H. F. Campbell.

occasionally the attendants at the patient's side would make passes over her in the mesmeric style, and spurt sprays of water upon her, after the fashion of Chinese laundrymen.¹

Many of the Indian tribes follow this custom, the parturient woman assuming a kneeling position, head and arms resting in the lap of an attendant, or upon any convenient support: a stump, box, bed, or chair; so the tribes of the Quapaw Agency, the Peorias, Shawnees, Wyandots, Ottawas, and Senecas.²

The Indians of the Cattaraugus Reservation are delivered in the same way, assuming this position just before the expulsion of the child, whilst in the earlier stages they sit or walk about as they please.³ So, also, the Clatsops of north-western Oregon, who, however, retain the body more erect, as a young woman assistant stands behind the parturient and clasps her under the arms and around the breast, supporting the patient and forcibly holding her up.⁴

The whites equally resort to this position; thus I hear of its observance in the western and southwestern portions of Missouri. Dr. Willis P. King, of Sedalia, writes me that he has found quite a number of cases where the women desired, during the last part of the second stage, to get up and kneel by a chair; and he says that all the women who have been in the habit of being delivered in this way were Pennsylvanians, of the Pennsylvania German stock, or, at least, that the suggestion had come from a Pennsylvania woman. Since he has seen a woman flood almost to syncope after delivery in this position, he condemns it severely.

I am a little astonished to see this position mentioned as originating in this country among the Pennsylvania Germans, because the only reference that I can find to the kneeling posture among the Germans (and we cannot in reality call the Fins Germans) is by Holst,⁵ who says that the Esthen, in difficult cases, seek to hasten delivery by assum-

¹ E. P. Vellum, M. D., Surgeon U. S. A.

² F. A. Bickford, M. D.

³ A. D. Lake, M. D.

⁴ J. Murray Dickson, M. D.

⁵ *Beitr. z. Gynæk. u. Geburtsh.*, vol. ii., p. 114.

ing the kneeling posture, by suspending the woman, or placing her upon her husband's lap. Among the early Scotch and English, however, it was more common, at least so it is told by Spence, in his "*System of Midwifery*,"¹ who says that some women are inclined to be delivered kneeling down beside a chair or bed, leaning on it with their elbows or heads. Irish, of the laboring classes in Massachusetts,



FIG. 12.—Puff-bellied Squaw

are still occasionally delivered in this position, if left to themselves.² The Armenians, and, in Greece, the Pelasgians, are delivered in the same position, kneeling, hands and arms resting on a chair, whilst the midwife is seated behind the patient to receive the child.³

Not having the convenience of a chair always at hand,

¹ Edinburgh, 1784, pp. 148-149.

² C. A. Wilcox, M. D.

³ Dr. Damean George. Ploss, p. 40.

but seeking instinctively to further labor by this same kneeling position, with the body inclined forward, the North American Indian seizes a staff or tent pole. This is true of some Indians belonging to the Sioux Nation,—the Blackfeet, the lower and upper Yanktonais, and Uncapapas.¹ In these tribes I am told that the parturient woman is generally assisted by an old squaw, the recognized midwife of the camp, or by a female relation. She assumes the kneeling posture,—knees apart, body inclined forward, hands resting upon a staff or *w'pe* pole, head resting on the arms. Sometimes the arms rest on a trunk, or other suitable object to lean upon. The staff referred to is known as the "Honpé," an instrument used for digging the Pomme blanc, or wild Indian turnip, and may be regarded as the original support used during delivery. This posture is maintained during the expulsion. The same is true of the Caddo, Delaware, Kiowa, and Comanche Indians.² "The patient generally walks about the lodge during the first stage of labor, but as the second stage begins she assumes the kneeling position, and holds to a stake driven in the ground in front of her."

The same custom is observed among the Comanches and the Indians of the Utah Valley, who, however, are not confined in their *w'pe*, but in a temporary enclosure near by. The accompanying cut represents a Comanche squaw in labor, and in order that it may be fully understood I will give some of the details of this accouchement from the extremely interesting description of Major W. H. Forwood, Surgeon U. S. A., who was in attendance and kindly furnished the sketch: "A short distance outside the camp, and in the rear of the patient's family lodge, a shelter had been constructed of green boughs, six or seven feet high, by making holes in the hard ground with a wooden peg, and setting up brush or bushes, with the leaves on, around the circumference of a circle about eight feet in diameter. An

¹ Surgeon L. M. Maus, U. S. A., Fort Yates, D. T.

² Dr. L. L. McCabe, Physician to the Kiowa, Comanche, and Wichita Agency; Maj. M. Barber, U. S. A.

entrance was provided by breaking the circle and overlapping the two unjoined ends; in a line outside the entrance



FIG. 13. Circular Labor
Sketch by Major W. H. Perward, Surgeon, U. S. A.

were three stakes, ten paces apart, set firmly upright in the ground, four feet high.

Inside the shelter were two rectangular excavations in the grass-covered soil, about twelve by sixteen inches, with a

stake at one end of each ; in one of these holes was a hot stone, and in the other a little loose earth to receive any discharge that might take place from the bladder or bowels ; the ground about was strewn with a few aromatic herbs ; sometimes a lariat secured to a limb overhead may take the place of the stakes to hold to during a pain.

I found my patient walking with her assistant, a female relative, up and down the line of stakes outside the shelter, stooping now and then to kneel at the nearest stake and grasping it with both hands during a pain ; most of her time was spent in this way, outside the enclosure ; occasionally she would enter to kneel over the hot stones or loose earth. During each pain she knelt down close to one of the stakes, bringing the front of her feet and legs against the ground and her knees a little apart, the body bent forward, face turned down, or sometimes up, at the severest part of the pain, and the hands, one above the other, grasping the stake on about a level with the head. The assistant stood behind, astride of or between the patient's feet, and stooping over, passed her arms around the body until her hands were brought over the front and lower part of the patient's abdomen ; in this position she performed several manipulations with the palms of her hands and fingers, while the pain lasted, such as rubbing, kneading, etc., but most frequently a quick jerking or shaking upward movement, something like that of shaking a pillow into its case. The patient never assumed a recumbent position, and the moment the placenta escaped she sprang up, buckled on a stout leather belt, mingled with the crowd and soon disappeared, without apparently taking the slightest notice of her child."

The Indians of the Uintah Valley Agency, Utah, observe the same customs with this exception, that they keep a kettle of hot water, boiling, within the enclosure or "Wick-e-up," of which the patient takes frequent and copious draughts during the labor, and as soon as the child is expelled she continues drinking freely of the hot water, rises to her feet, places a folded cloth to her abdomen, and

leaning forward over a short stake, rests her body upon it, thus exerting considerable pressure over the hypogastric region, which is supposed to favor the expulsion of the placenta.¹

The natives of New Zealand kneel down upon a mat, the knees about two feet apart, the hands resting on a tree or stick, or clutching some hard substance, while if help is needed, the arms are twined about the knees of an assistant in order to press them against the fundus of the womb.²

The Dakota woman assumes a kneeling position during labor, unless extreme weakness prevents; she supports herself by a post driven into the ground, or any convenient means of support; the recumbent position, they think, retards the progress of labor.³

The rather vague information to be obtained from the Cheyennes, Arapahoes, and Eastern Apaches was to the effect that the parturient woman, as among so many of the Indian tribes, retires to the bush, where, if the labor is a normal one, she is delivered without any assistance, the position assumed being upon her knees, occasionally a reclining one. Dr. C. P. Allen writes me concerning the Chippewas, from the White Earth Indian Agency, that, if the parturient is of the wild or blanket Indians, a quantity of dry grass is spread on the ground in the *Aspen*, or house, if they have any; a pole six to ten feet long and three to four inches in diameter is placed on the backs of chairs or fixed across one corner of the room about the height of a chair, behind which, with it across her chest, the woman rests on her knees during the pains, sitting down in the interval. Those who are partly civilized assume a somewhat similar position but use straw overlaid by quilts or blankets.

I would here call attention to the fact that the Chippewa woman seems to draw horizontally upon this cross-bar and

¹ Frank S. Bascom, M. D.

² *Brit. and For. Med.-chir. Rev.*, Lond., 1855, vol. xv., page 525. Hooker, *Journal of the Ethnological Society*, of London, 1869, page 69. Goodell, page 674.

³ Dr. J. W. Cook, Yankton Agency.

not to rest herself, or raise herself, as do those Indians who support themselves by a staff or pole. An Indian interpreter, F. F. Gerard, who has spent some thirty years among the Indians, especially the Rees, Gros Ventres, and Mandans, and has had a good deal of practice in their camps, writes me from Fort Abraham Lincoln, that, with the assistance of several women, the parturient is confined in a kneeling



FIG. 14. — Chippewa Labor. Kneeling inclined backwards.

posture, her head resting on her arms, which are crossed upon her bosom, and raised about fifteen inches from the ground: a large piece of skin is placed upon the ground or a blanket is used, and three or four inches of dirt are strewn upon the skin or blanket, then another piece of skin or blanket is placed over this for the woman to kneel upon, the head upon the edge of the bed. This position is assumed during every pain until the delivery takes place.

This is a kneeling position with the body so far inclined forward that it approaches the knee-hand, knee-chest, knee-elbow posture, to which we next come.

From a very instructive letter, recently received from Dr. N. Kanda, of Tokio, I see that the Japanese are not unfrequently delivered in a kneeling posture; the descrip-

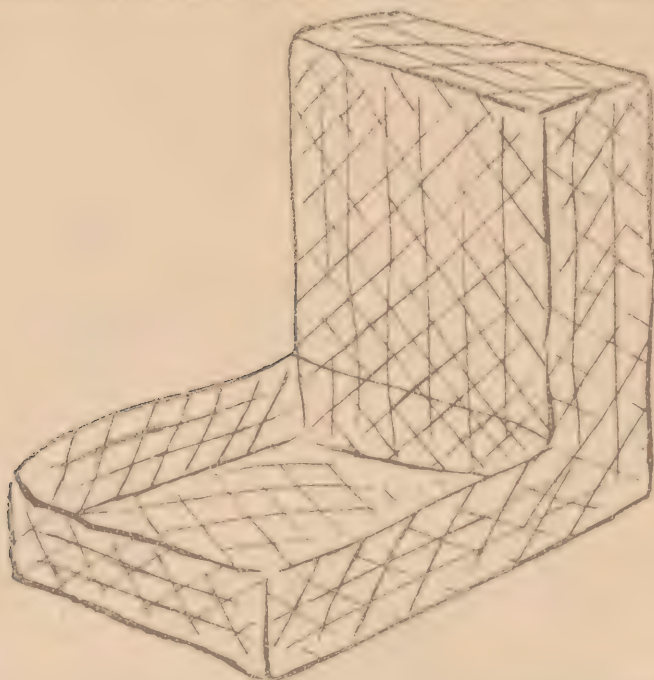


FIG. 15. — Framework formerly in use in Japan for the support of the parturient in a kneeling posture.

tion of the labor is as received from the mouth of one "ignorant of the modern laws of obstetrics." During labor and the expulsion of the child the woman is in a (sitting) kneeling posture, *i. e.*, the body supported on the tips of the toes and the knees; the reason for this is to prevent the rush of blood to the head. The body is bent forward, and the patient supports herself by seizing hold of a midwife, who moreover assists by rubbing her abdomen. This is in case she can afford to call in two midwives, as a more skillful

one is needed to take charge of the labor. As a rule the inferior assistant is dispensed with, and a framework about one foot and a half square is used as a convenient support for the patient to hold to.

Fifty years ago the patient was supported in her position and the labor conducted in a framework (Fig. 15), but now ordinary articles of bedding are piled up to support the back (Fig. 16), as seen in the figure which represents the posture just after delivery, and in this upright position



FIG. 16.—Sitting Posture of the Japanese, customing a Child.

the patient remains for some three days, when gradually the prop is removed from behind her back until finally she is lying, as usual, with her head on but one pillow.

(b.) *Knee-Hand or Knee-Elbow Position.*

The knee-elbow position seems of old to have been recommended by the ablest obstetricians for very stout persons. Thus Soranus, and later the Arab, Jahiah Ebu Serapion, and Rhazes, who lived in the first half of the ninth century, advises the knee-elbow position under these cir-

circumstances; so, also, later, among the Germans, Roeslin¹ tells us that this same treatment of fat women is found in the works of Hippocrates, Galen, Paul of Ægina,² Aetius,³ and was used by most of the "modern ancients." Nor was it confined to remote times; for in some portions of Russia, Greece, and Turkey women are yet confined in this way.

In 1779, Hopkins objected to the lateral position and urged that the position on the hands and knees was the best.⁴ Denman was of opinion that "this posture is instinctively sought by unassisted women."⁵ Whilst in 1791, that shrewd observer Charles White quoted Denman approvingly, and argued that the "knee-elbow position in natural labor prevented too great a pressure on the perineum."⁶ According to Ramsbotham,⁷ "the peasantry of Ireland placed themselves upon their hands and knees, and in Cornwall it is difficult to persuade the woman in labor to take any other posture than standing or on her knees." It is interesting to see how people carry these customs, which have been traditional among them for ages, across the seas.

We have seen the southern Negroes following the African ways, and the same may be observed among the Welsh, the Irish, and Germans; thus, Dr. H. C. Yarrow tells me that he had a patient once, a Welsh woman, who insisted on crawling on hands and knees while the pains were progressing, and who informed him that in Wales women frequently assumed this position or were delivered sitting upon the laps of their husbands. Irish women, who, as I am informed by several correspondents,⁸ are in this country delivered in the hand and knee position, assert that this is

¹ Goodell, page 675.

² Lib. iii., cap. lxii., 76.

³ *De Conceptus et Partus Ratione*, cap. 22.

⁴ *The Accoucheur's Vade Mecum*.

⁵ *Archives of Midwifery*, London, 1792, part i., page 58.

⁶ *Management of Pregnant Lying-in Women*, London, 1791, p. 104.

⁷ Second edition, page 122.

⁸ Dr. Baldwin, of Columbus, Ohio.

frequently resorted to by women of their nationality abroad. Some of our ablest obstetricians consider the knee-elbow position a decidedly favorable one for version. Dr. Campbell, of Augusta, had a most successful case of this kind which he described and which should have been published in the "Transactions" of this Society, but by some accident was mislaid; he seems to think that when the woman is in labor the contents of the pelvic cavity are, by this position, relaxed in a most remarkable manner, making it very favorable for version. Dr. Parvin of Indianapolis has published a similar case, which has deservedly excited attention. These learned gentlemen, however, need not claim any credit to themselves, as the untutored redskin now does, and probably has for centuries done, the same thing. The Cheyenne and Arapahoe squaws, who usually assume the dorsal decubitus, seek a change of position in case of protracted labor, and not unfrequently the knee-elbow position to facilitate or hasten labor.¹

Major Charles R. Greenleaf, surgeon U. S. A., informs me that the Nez-Perçés and Gros-Ventres women, who in ordinary labor are confined in a stooping posture, in cases where labor is protracted assume the knee-elbow position, whilst the patient's abdomen is encircled by a broad belt, upon which force is exerted by assistants, placed on either side of the patient, who scrupulously direct this force backwards and downwards during pains. The doctor himself witnessed such a case of protracted labor in a Gros-Ventre squaw, a primipara, who assumed the ordinary knee-elbow position and about whose abdomen a belt, often called the "squaw-belt," was placed.

The pressure exercised by the "squaw-belt" among the Gros Ventre Indians is supplied by the pillow among the Creeks, and the encircling arms of an assistant among the Kootenais, whose labors are conducted in a most peculiar fashion, the parturient taking the knee-elbow position; she is on her knees, the face touching the ground; hands, one above the other, grasping a pole planted in the ground,

¹ J. H. Bannister, M. D.

head touching the hands; legs apart. A male assistant stands astraddle of the patient, over her buttocks, his hands clasped around her waist; during each pain he pulls, thus making pressure on the abdomen.¹

The Modocs, who as yet have assumed but few of the customs of civilized life, are always delivered in this position; their method is as peculiar as it is instructive, and is worthy our most careful consideration; they maintain a curved position, lying on the side, until the labor is nearly completed, when they assume the position on their knees and hands, which is continued until the child is born.²

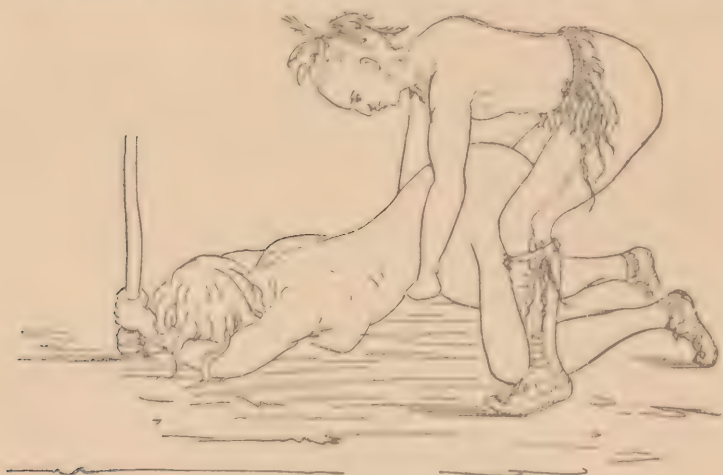


FIG. 17. — Kootenai Squaw. Knee-face position, with assistant astraddle.

Experience has evidently taught them that these different positions assumed during various stages of labor would make it progress most rapidly, with least pain to themselves.

In ordinary cases the Creeks assume what we might call an overdone knee-chest position; they are delivered lying on face and chest, and hence I have classed them as horizontally recumbent.

¹ E. L. Morgan, M. D.

² F. A. Bickford, M. D., Quapaw Agency.

(c.) *Kneeling, with the body erect, inclined backward, or partially suspended.*

This, like other of those apparently peculiar positions which are fast yielding to the westward march of civilization and scientific medicine, was at one time not unusual in our States, and I will cite the early experience of Dr. Reamy in Ohio as characteristic of the practice thirty years ago: he says: "I have found in my practice ten or twelve different women, who had frequently borne children before, who insisted, with a perseverance and determination that I dared not resist, in being out upon the floor, down upon their knees, leaning backward so that the buttocks almost touched the heels. The husband knelt behind the wife, with his arms around her, his broad strong hands acting as a pad for the abdomen, and making pressure during pains — à la Crédé — her shoulders resting against the man's chest. These women insisted that this was the only position in which they could be comfortably and successfully delivered." The same position, practically, is found among the Papagos. Among these Indians, "the position of the squaw, from the time the labor pains commence until the expulsion of the fetus and placenta, is a kneeling one, with the knees sufficiently spread to furnish comfortable lateral support to the body, which is erect. In the interval between the pains she is allowed to move about according to her inclination. In ordinary labors two women assist her. One of them places herself in a kneeling position behind the parturient woman, and with one knee pressing firmly in the lumbar region, she grasps with both hands the body of the patient immediately under the ribs in front. The other assistant places herself in a kneeling position in front of the woman, and with the palms of both hands rubs the abdominal wall down from the spine of the ilium to the pubes. It is interesting to note that they seem to appreciate the necessity and advisability of time and patience with primiparæ, as they do not resort to the same degree of pressure and friction which they employ in assisting multiparæ.¹

¹ J. O. Skinner, M. D., Surgeon U. S. A., Fort Lowell, A. T.

The Yuma Indians vary this position somewhat.¹ The parturient woman is assisted by two others of long experience in the business. One of these kneels behind her, supporting her body in nearly an upright position, her arms passing under those of the patient and pressing or smoothing down the abdomen. The other assistant squats in front, between the feet of the patient, with her ankles crossed, and her shins pressed against those of the parturient woman, whilst she holds her by the hands or wrists. The posture of the patient is, therefore, with the shoulders high, the legs and thighs strongly flexed and abducted, which position is retained until the expulsion of the placenta. No bandage is used.

The Upper Klamath and nearly related Modocs of Oregon are usually delivered in a small lodge some distance away from the other houses. The parturient also assumes a kneeling position, supported by one old squaw, whilst another keeps kneading and rubbing her abdomen. Sometimes she varies her posture by sitting and pressing her feet against some support, while she bears down. If labor is tedious, they often sit over warm stones moistened with water, or, in other words, take a steam bath to relax the system. They also steam themselves occasionally for several days after the birth of the child.²

Precisely this same position is found among many of the Mongolians, especially the Tartars, if we may accept the authority of Hureau de Villeneuve.³ The parturient moves about during the early pains, sometimes standing with her hands above her head, but as soon as the bearing-down pains begin she assumes the kneeling position last described, almost erect, supporting her body upon the hands, which rest upon the separated knees or thighs; the assistant behind supports her by seizing her under the arms, whilst the midwife rests upon one knee in front of the pa-

¹ Surgeon J. K. Carson, U. S. A.

² James S. Dennison, M. D.

³ *De l'accouchement dans la race jaune*, Paris, 1863, p. 32; Ploss, p. 40.

tient. The author seems to think that the advantages of this position are greater than its disadvantages, that the abdominal muscles come more freely into play, and that there is less danger of rupture of the perineum, as the head of the child, following the pelvic axis, tends by its own weight towards the vaginal orifice, and not towards the perineum, which in this way escapes the pressure necessarily bearing upon it in any other position. Prolapse is not known among them. While writing this my attention is called to a circular just received, giving the titles of papers entered to be read before the subsection of Anthropology, at the coming meeting of the American Association for the Advancement of Sciences, to be held in Boston, August, 1880. I find that a paper is announced entitled, "Parturition: Kneeling Posture as practiced by the Women of the Mound Builders and Stone Grave Races," by Rev. C. Foster Williams of Ashwood, Maury Co., Tenn. In answer to an inquiry, Mr. Williams states that he has in his collection of Mound Builder relics an earthen vessel, which he supposes to represent a woman in labor: the right knee on the ground, with the right hand resting on that knee; the left foot on the ground, the left hand resting on the left knee.¹ Although sorry to disabuse Mr. Williams of his belief, I must state that this position cannot possibly be assumed by a parturient woman, as the muscles would not be relaxed, and proper space would not be given for the passage of the child.

My attention once called to the subject, I examined my own collection, and found in it two images representing a woman in the erect kneeling posture, the knees somewhat separated, the hands resting upon the knees or thighs in precisely the same position as that assumed by the Mongolians, and probably the Yumas. It is not unlikely that these figures represent parturient women, and it is highly probable that the mythical Mound Builders, be they predecessors of our Indians, or older tribes of the same stock,

¹ This position is advocated by Herr V. Ludwig as the most favorable one for the first stage of labor.

were delivered of their young in the same position as the red squaws of the present day. Hence we may take the testimony of these vessels, relics of a former civilization, that the position assumed by the Mound Builder race in parturition was the erect kneeling one.

The *kneeling, partially suspended*, position is found among the Indians and lower classes of Mexicans in the neighborhood of San Luis Potosi. The labor is conducted in the following way: a round stick of pine wood, eighteen or

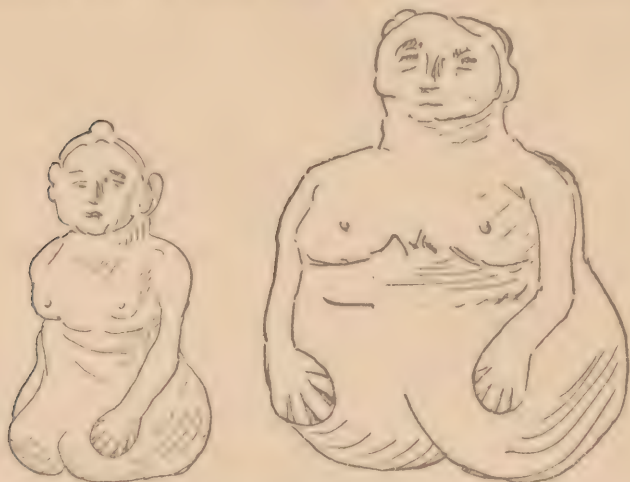


FIG. 16.—Images from the Period of the Mound Builders From the Burial Mounds of Missouri.

twenty feet long, and half a foot in diameter, is placed against the head of the bed or the wall, its other end resting upon the floor at an angle of about forty-five degrees; to this beam a cord is tied, knotted at one end, and covered with soft cloths. The parturient woman kneels upon a sheep-skin spread upon the floor, seizes the knotted end of the cord in her hands, and is delivered in a kneeling, semi-suspended position, by the *partera* or midwife.¹ Dr. Barroeta says also that prolapse and displacement of the uterus are not uncommon, and does not know why they are

¹ Dr. G. Barroeta.

not still more frequent. From other sources I also hear that the lower orders of Spanish women nearly always take the kneeling position, and, as Dr. Coates writes me from Pueblo, Col., "if the placenta is hardy they always drink a cupful of soapsuds, which produces vomiting, followed by the immediate expulsion of the afterbirth."

The lower classes of Northern Mexico speak the Spanish language and profess the Catholic faith, but in all other respects are Indians, and retain many Aztec customs; so



FIG. 19. — Northern Mexico.

the accouchement, which is described to me by Surgeon George W. Adair, U. S. A., precisely as we have seen it among the Indians near San Luis Potosi, the patient kneeling, grasping a rope pendent from the ceiling, and assisted by *tendera* and *partera*, "the *tendera* fixing the knees, and holding the upper portion of the trunk, as in a vice, pulls the pelvis forward, hinged as it is upon the acetabulum, and thus overcomes the dip of the plane of the superior strait, and straightens the passage with greater efficacy and certainty."

The American Indians on the frontier of Mexico follow the same traditional method of delivery, hanging on a rope suspended from a rafter, with the knees bent and just off the ground. The rope, which is wrapped with cloths or towels so as to make it softer, usually hangs at the edge of the bed, so that the patient can stand on her feet or sit or



FIG. 2. — Coyotero Apaches. Difficult Labor.

recline on the bed during the intervals between the pains. The partera introduces her hand and presses on the perineum, not making a steady pressure, but during the entire time of the pain she jolts the patient up and down, imagining that she is shaking the child out.¹

The Coyotero Apaches place the parturient in a similar position, suspending her a good deal more, in difficult cases,

¹ C. M. Harrison, M. D.

if she does not succeed in expelling the child in the squatting posture customary among them. "A rope or lariat is tied around the woman's chest just beneath her arms, and the other end thrown over a stout limb of an adjacent tree, while two or three squaws draw upon this until the woman's knees barely touch the ground; others, generally two, encircle the body with their arms, and 'strip' down with considerable force, a kind of 'all pull together,' as it were. This energetic manœuvre generally suffices for prompt uterine work."¹

The Santee Indians are almost invariably delivered in a kneeling posture on the floor, with a bench or chair in front of them upon which they rest their arms, while sometimes they have a rope attached above by which they partially suspend themselves, just as the Mexican Indians and half-breeds do.²

(d.) *Kneeling Postures, where Precise Description is Lacking.*

Unfortunately, Dr. Ploss, in his valuable and interesting work, has failed to define precisely the positions assumed, and, as I have been unable to refer to the authorities myself, I will take the liberty of stating in a general way, upon the authority of Dr. Ploss, that the kneeling posture is assumed occasionally, at least, by women in labor in Nicaragua,³ in Finland,⁴ in modern Greece,⁵ in Kamtschatka, in eastern Asia; and, if we go back to the Middle Ages, among the Abyssinians,⁶ a people who originally came from Asia, where, as we have already said, among the yellow races the kneeling posture is a common one; also, under certain circumstances, in Rome; among the Arabs and Germans in the Middle Ages. Finally, in ancient times, among the Pelasgians, if some Greek authors are correctly translated.

If I may be permitted to refer to the somewhat vague

¹ Walter Reed, M. D., Surgeon U. S. A.

² Dr. George W. Ira.

³ W. Murr, *Reise nach Central Amerika*, Hamburg, 1803, vol. i., p.

275.

⁴ Holst.

⁵ Prof. George.

⁶ J. Ludolf, 1681.

statements in the Bible, we find in 1 Samuel, iv. 19, "Phineas' wife bowed herself and travailed, for her pains came upon her." This passage, I am informed, is commonly rendered by learned commentators as kneeling; Gesenius, in his Hebrew Lexicon, so understands the word. In Job, iii. 12, "Why did the knees prevent me," the Latin word being *prevēnio*, to go before; as if Job had said, "Why did not the knees of my mother remain rigid and stiff, and I strangle in birth." The whole passage sustains this idea of kneeling.¹

4. SEMI-RECUMBENT.

The semi-recumbent positions are by far the most frequent among the ancients, especially among the more civilized people of often times, and among the savage races of the present day. The same position of the body is assumed by various races in very different ways, there being apparently no resemblance in the method of delivery, whilst it appears, upon more careful study, that the position of the body, the inclination of the trunk and the pelvic axis, together with the relaxed position of the thighs, is almost identical, the same end being accomplished in ways very different, peculiar to each people, and in keeping with their surroundings. Thus, the simplest of the semi-recumbent positions, which is upon a par with the customs of the rudest African races, is sitting upon the ground, upon a stone or rude cushion, with the body inclined backward, leaning against an assistant, a tree, or some other object. A marked progress is achieved, when we find the parturient woman seated in the lap of an assistant reclining against his chest, a position which reaches its greatest perfection in the obstetric chair. As the next step, I regard the dorsal decubitus, a position modified according to the circumstances of the people. In the wilds of Africa, and in the interior of our western country, the patient finds her couch upon the floor, propped up against some staves of wood or a pile of grass, whilst in the lying-in chamber of the civilized peo-

¹ C. Foster Williams.

ple we find the same position assumed upon the bed, and this I look upon as the perfection of obstetric positions, the easiest, most comfortable, and advantageous.

(α.) *Sitting Semi-recumbent on the Ground, upon a Stone or Stool.*

Among our Indians we find that the Otoes, Missouris, Omahas, Iowas, and nearly related tribes assume the sitting posture, the legs widely separated; but as the crisis supervenes, the patient raises herself somewhat by a rope suspended above, thus attaining an inclined, semi-recumbent position.¹ The Wakah squaw assumes a sitting posture, on the floor of the lodge, with nothing but an Indian mat under her. As soon as the labor pains come on her feet are drawn up close to the buttocks, and the legs flexed; this position is maintained until after the birth of the child and the expulsion of the placenta.²

The women of the Skokomish Agency, W. T., sit down with a pillow or roll of blankets resting against the perineum; one squaw supports the back, while another receives the child. This position is a slightly recumbent one, the buttocks resting on the pillow or roll of blankets.³ The Confederated tribes of the Flatheads, Pend d'Oreilles, and Kootenais, follow a similar custom: a small box, or a piece of wood, six or eight inches high, covered with old pieces of blanket or buffalo robes, is the seat upon which the sick woman is placed; her legs are separated and flexed so that the heels almost come in contact with the seat. She is retained in that position by two assistants who hold her by the arms, and sometimes a third one stands behind and presses upon her shoulders, and in this position the child is expelled.⁴

Though apparently uncomfortable and inconvenient, and rare among the the American Indians, the Kaffirs univer-

¹ Dr. W. C. Botener, Otoe Agency, Nebraska.

² J. N. Powers, M. D., Neah Bay Agency, W. T.

³ J. W. Givens, M. D.

⁴ L. H. Choquette, M. D.

sally adopt this obstetric position, sitting with the heels drawn up to the buttocks, the shoulders generally resting against one of the poles supporting the roof of the hut, or against some one of the female friends, who are present in full force.



FIG. 24.—Kaffir Women in Labor.

A somewhat similar position in labor seems to be followed in Germany by Russian emigrants who came there in 1858 (Prussian Pomerania). They, however, do not raise the shoulders so much. Dr. C. J. Egan, who makes this statement,¹ adds: "The Kaffir position is a very good one, and the woman has full power to bear down and assist her pains. Of course, in this position, no support can be given to the perineum by the hand of the attendant, but I am much inclined to think that some very useful support is

¹ *Midwifery Notes from British Kaffraria, in South Africa.*

given the perineum from its resting on the firm floor of the hut, and the sudden passage of the child's head is thereby prevented."

The Kaffir and the Indian woman sit upon the ground, whilst the somewhat more advanced half-breed, as she is often found in Southern California and New Mexico, seats herself upon a chair, and during the pains, in the same way as her Indian sister, grasps a rope suspended from the ceiling above; but, when tired out in this position, she is often found kneeling upon the ground.¹ A white sister involuntarily testifies to the efficiency of this position, at least under certain conditions, — a primipara who had been in labor for two days and was confined on the third, in a sitting posture, the pains ceasing entirely whenever she assumed a recumbent position; of this the observing attendant, Dr. Von Mansfelde, of Ashland, Neb., assured himself. In order to satisfy himself that it was not the whim of a parturient woman, he placed her on the bed, on her side and back, several times, but the hand placed upon the fundus showed complete relaxation; no sign of contraction. When replaced in the sitting posture the pains readily returned, and were very effective, the woman being delivered within two hours after dilatation of the os.

The Arab woman is seated on two flat stones, or, more properly, her buttocks are slightly supported upon two flat stones, whilst during each pain she partially raises herself by a rope which is suspended from the centre-pole of the tent. Two assistants seize the parturient woman under the shoulders, and she herself, during the pain, raises herself by the rope; they aid this motion, partially suspend her, shaking her well, as the miller does his sack of flour when he empties it, and then, as the pains cease, they drop her back upon the stones. This, at least, was the practice witnessed in several cases in 1858 by Dr. Goguel,² in one instance,

¹ King, *Am. J. Sc.*, April, 1853, p. 891.

² "Accouchement chez les Hébreux et les Arabes," *Gaz. hebdomadaire de méd.*, No. 23.

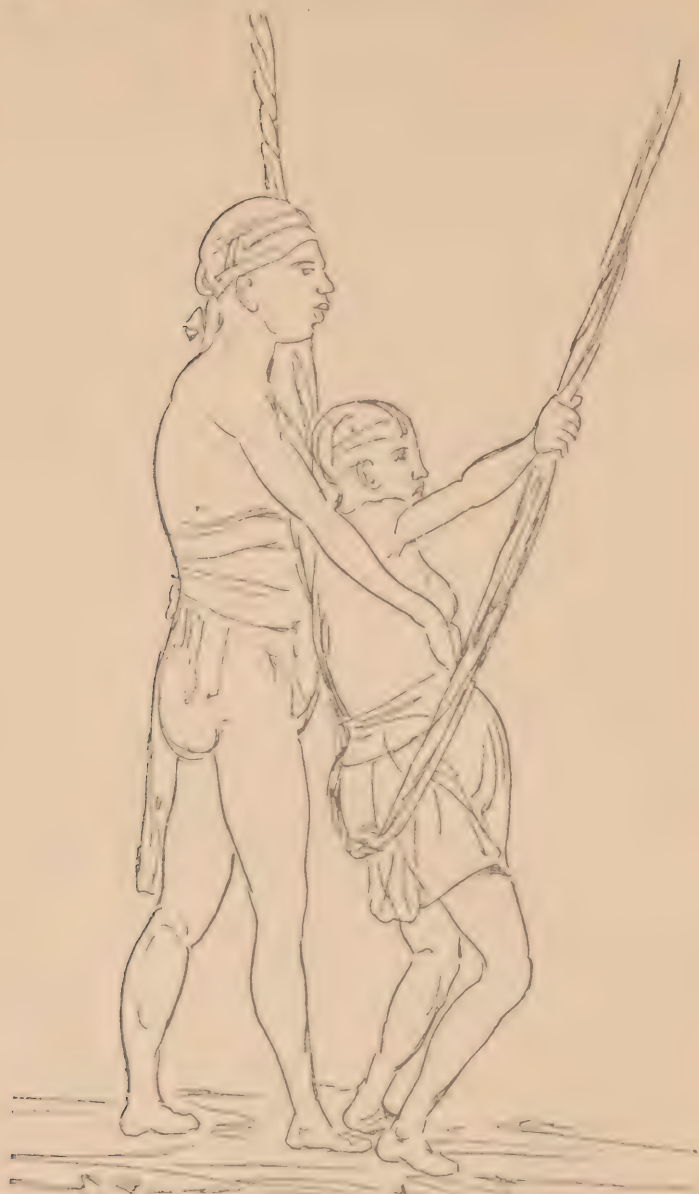


FIG. 22. — Oronoko Indian. Seated semi-recumbent in hammock

the patient being the wife of a sheik. In Massana, upon the Red Sea, the woman of the lower classes sits, in the same way, upon a flat stone, reclining against some convenient support, or held in the arms of a friend. The natives of the Antilles not unfrequently assume a sitting, semi-recumbent position. In some portions of South America, where hammocks serve so many purposes, for instance, among the Indians of the Orinoko and Guiana, the parturient woman is delivered while seated upon the hammock, which is rolled almost into a rope. The assistant stands behind to support the patient, whilst the midwife, often a very skillful woman, is seated in front, and remains to fulfill her office.¹

A most admirable position, typically semi-recumbent, was customary in Greece and her provinces 2,200 years ago, as is proven by that interesting group, representing a labor just completed, which was discovered by General di Cesnola during his researches in Cyprus; we, moreover, have the same undeniable evidence that this marble group faithfully represents the obstetric position in Cyprus twenty-two centuries ago as we have of the correctness of the Peruvian posture at the time of the Inkas, as pictured upon the funeral urn. The native Peruvians of the present day are still confined whilst seated upon the husband's lap; and the Cypriote midwife of to-day still places her patient in the semi-recumbent position upon a low stool which she carries about with her.

In response to my inquiries, General di Cesnola kindly furnished me with the following most valuable information. He says: "The group was found among the *dicbris* of the temple at Golgoi, in 1871, and is of the best Greek epoch, say 400 B. C. The chair on which the woman is reclining, is Cypriote, and was probably used also in Greece at that period; the modern Cypriote midwives possess similar low chairs, which they carry with them when going to attend a child-birth, and I have myself seen the circumstances as shown in that group, which faithfully represents the partu-

¹ Dr. George W. Barr.

rition scene of to-day. An assistant of the midwife's is kneeling behind the patient, holding her head upon her shoulder; the midwife, who is seated upon a very low stool in front of the parturient and between her separated legs, has just extracted the child which she has on her arms. The exhausted woman, seated in a semi-recumbent position on a low stool, still has her legs wide apart, but has been covered with a blanket and is left to rest for a few minutes



FIG. 24. Litter Scene. (Archæol. Græcæ. Group in the Cassini Collection, New York.)

previous to being replaced in her bed. . . . The chairs which I have seen, and especially the one which the midwife of Lamaca brought to the house of our friend, had no pillows, but two arms; and the seat, though not perforated, had a peculiar shape, with a ridge in the centre, evidently made for the purpose of keeping the legs apart as much as possible."

Although Cyprus was held at various times by Phœnicians, Assyrians, Egyptians, Persians, and Romans, this much mutilated group so unmistakably bears the imprint

of Greek art that we must look upon it as representing the custom of those people and those of Cyprus during the Greek period, and well representing it, for the position of the parturient is an admirable one, unmistakably seated, semi-recumbent, upon a low stool, which cannot be termed an obstetric chair, as is done in the description of the group in the "Transactions of the Edinburgh Obstetrical Society."¹ Great importance is attached to it by the author of that paper, as demonstrating the antiquity of the obstetric chair, but the fallacy of this view is already well proven by the criticism of Seligman in Virchow's "Jahresbericht."

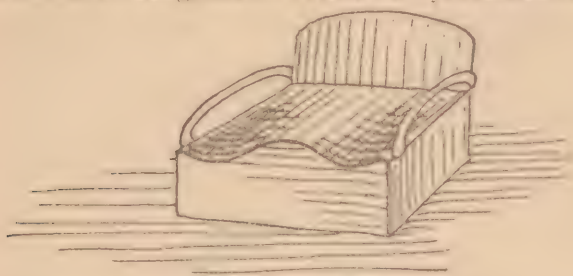


FIG. 24.—Modern Cypriote Midwife's Chair.

In southern India the patient walks about during the earlier stages of labor, then sits upon the ground with the thighs well separated, the back supported by an assistant, whilst the delivery itself is finally accomplished while lying upon the ground.²

(c.) *Sitting on the Lap or between the Thighs of an Assistant who is seated on a Chair or on the Floor.*

I look upon this position as identical with that on the obstetric chair, although more simple and more ancient; and I believe that it will be apparent to every one, if the relative positions are considered, that the obstetric chair is merely an imitation of the more pliable and sensitive support afforded by the husband or assistant, who is himself made to suffer whilst holding the parturient woman during

¹ 1878, vol. iv., p. 50.

² Shortt, *Edinb. M. J.*, Dec., 1864, p. 554.

the tedious hours of labor. I am heartily in accord with the statement of Rigby, although seriously questioned by Ploss, that, "as far as we may rely upon the meagre records which history gives us upon this subject, among the more civilized people of antiquity the semi-recumbent sitting posture was by far the most common. In proof of this I will again refer to the oft-mentioned funeral urn which so vividly pictures the position of patient, husband, and nurse in the lying-in chamber during the moment of the greatest trial, during the expulsion of the child. The patient is seated in the lap of an assistant. I can hardly say whether this is the husband or a female assistant, whether it is a male or female figure; at all events she is seated in the lap of a person whose arms encircle her waist, the hands pressing firmly upon the fundus of the uterus. The midwife is seated upon a low stool between the separated legs of the patient, and is just in the act of receiving the head of the newborn child. This vessel, called *Huaco*, represents a parturient scene precisely as it is still enacted among the descendants of the Incas to this day, and Dr. Coates assures me that he has, during his stay in Peru, not unfrequently acted accoucheur, the woman always taking this position with the husband behind. Upon that entire coast of South America the inhabitants seem faithfully to adhere to the customs of their ancestors, and no better proof can be found of the correctness of the representation of the labor scene depicted upon this vessel than the above statement of Dr. Coates, and of other physicians, the most interesting of which is perhaps one by Dr. Ruschenberger,¹ who, whilst in Colima, in Chili, in 1823, was called to a case of placenta previa and found a lady, a lady of rank by the way, with her feet near the foot of the bed, the knees drawn up, reclining against her husband, a rather short corpulent man, who was sitting in the middle of the bed wearing his riding cap, booted and spurred, with the legs extended on each side of her and his hands clasped in front of her chest to afford support. The antiquity of this position is also proven by a passage in

¹ *Am. J. Obst.*, Oct., 1879, p. 737.

Genesis (xxx. 3), which says that the Hebrew women were confined upon the lap of a female assistant.¹ In ancient Rome this position was assumed in cases, either of urgent necessity, or among the poor where the obstetric chair was not to be had. Moschion teaches his readers to help themselves in this way and it seems that these teachings, revived in Italy by Joannis Michaelis of Savonarola,² finally found their way into Germany. In France, also, an author like De



FIG. 25.—The Scientific Posture advocated in the 16th century. From Joannis Michaelis Savonarola, 1547.

La Motte³ became a warm advocate of this position. Joannis Michaelis highly lauds a very low three-legged stool which serves as a seat for the assistant in whose lap the patient reclines; he speaks of it as being of great antiquity, and much esteemed by the ancient Greeks. The assistant stands behind, on a rounded knob, supporting the patient, who is seated in front, upon the forked portion of the stool. At a comparatively late period a similar method of delivery was adopted among the modern Greeks⁴. The parturient

¹ Kotelmann, *Die Geburtsh. bei den alten Hebræern*, Marburg, 1876.

² *Practica major. Venetiis*, 1547, p. 280.

³ *Traité*, 1721, liv. ii., chap. 12.

⁴ W. Eton, *Schilderungen des türkischen Reiches ger.*, by Bergkt. Leipzig, 1805, page 144. Moreau, *Natur-gesch. des H. Mal.* ii., page 144.

woman being seated upon a kind of tripod, behind her upon a somewhat higher stool sits an assistant whose arms are clasped over the fundus of the womb whilst the midwife is seated in front. I regard these positions as in the lap of an assistant and can certainly not look upon a simple stool, as it was probably found in any kitchen at the time, as an obstetric chair, but from that, most unquestionably, the obstetric chair takes its origin, and a very pointed statement to this effect is made by Dr. Metzler,¹ who in the early part of this century found an obstetric chair in some remote village where he little expected to see it, which had been constructed by a carpenter who had neither seen an obstetric chair nor heard of one; but his wife had found her labor so easy, while sitting upon his lap, his legs separated, that he soon obtained a reputation in his native village, so that finally not a woman in the place would be confined in any other way than upon this good man's lap; this he soon found so irksome that he constructed this chair, and, in his endeavors to copy the position assumed by himself, a very fair obstetric chair resulted.² The above also seems to verify the statement that certain persons seem especially fitted, and acquire a reputation for such work; in Holland they were a regular convenience at every labor, and were known as "shootsteers;" but not only here and there in Germany, in France or Holland, but also among the early Scotch, Welsh, and English was this position frequently resorted to, and we need not be astonished to see this same custom in our own country.

We have seen how the modern Peruvians still follow the ways of the Incas, and so the descendants of these Germans, Welsh, or Scotch have not forgotten the habits of their ancestors, although they have crossed the seas and have mingled with a more enlightened civilization. It may surprise some of our city practitioners of to-day, who see little of the country population, and especially those who have not practised in rural districts years ago, that in our

¹ *Jenaisches Archiv. f. Geburtsh.*

² See Fig. 30.

own States women are confined sitting upon the lap of the husband or an assistant; this was, of course, much more frequent thirty years ago than it is now, but I still hear of it in many of our States, especially in southern Ohio, Pennsylvania, southwestern Missouri, Georgia, and the mountain regions of Virginia.

A graphic description of obstetric practice in the rural districts of Ohio is given me by Dr. E. B. Stevens of Lebanon, Ohio, and embodies all that has been written me from other States. To quote his own words: "When I commenced to practise, a good many years ago, the almost universal habit of confinement throughout the regions of south-

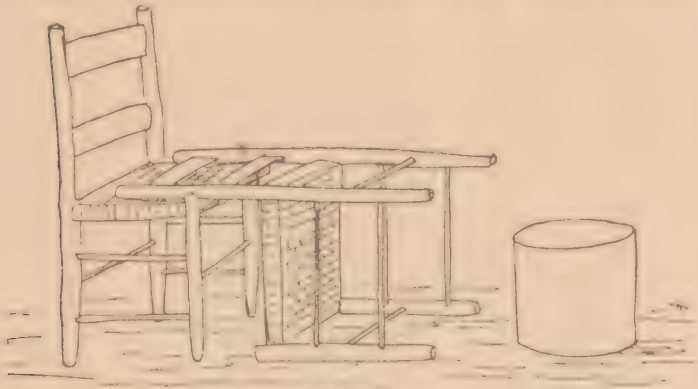


FIG. 26. — The Obstetric Couch.

ern Ohio was about as follows: two old-fashioned, straight-backed, slip-bottom chairs made the lounge, one chair erect the other turned down; a few old comforters upon this framework completed a very comfortable couch; the husband took his seat first, astride, the wife reclining in his arms, where she remained until labor was completed, unless there was much delay, in which case the patient was walked about or assumed any other position as dictated by fancy or impulse; the position of the accoucheur was upon an inverted half-bushel measure, so placed that he sat just between the limbs of the patient. Labor completed the soiled clothes were changed and the patient was placed in bed.

This position was certainly not a bad one for all parties with the exception of the husband, who, in tedious cases, suffered rather severely; but then this little tax on his affectionate nature was, in those days, considered the very least return he could make for the mischief he had occasioned."

I have been told of this position in so many different parts of this country that it would be superfluous to refer to individual statements; it is found in Pennsylvania, and among Pennsylvania emigrants in southwestern Missouri,



FIG. 27. — Semi-recumbent in the Husband's Lap. Ohio.

the position being practically the same, but differing somewhat in the details: thus, three chairs are placed in the form of a triangle, facing towards a common centre; the husband takes his seat in one of these, and has a sheet, or broad towel, or any cloth heavy enough, bound around his thighs, leaving the knees about six inches apart. This cloth serves as a seat for the parturient, and prevents the husband's legs from spreading apart when tired by the long continued strain; the patient puts her feet on the rounds

of two other chairs, while a woman, seated in each of them, takes one of the patient's hands and supports the knee next to hers.

A professional friend in this State, who, like many other practitioners, tells me that the first patient he ever delivered was confined in this position, says that since then he has delivered quite a number of women in this way, and thinks it a great help in cases where the head constantly retreats after the pain ceases; in the rural districts of Georgia both negro and white women, now and then, still

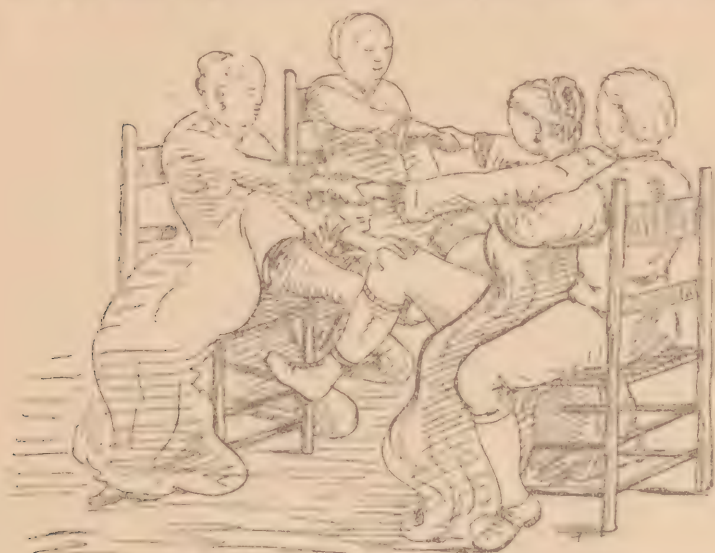


FIG. 28.—Sitting position in Labor. Virginia.

follow this custom; so, also, in Virginia. A very minute description of such a labor in the mountain districts of northwest Virginia, in the first third of this century, is given in the "New Orleans Medical and Surgical Journal" for 1860.¹ It is not surprising to see the white man thus patiently assisting his wife in the hour of her trial; but it does seem somewhat strange that we should find this position, and the laborious duty imposed by it, undertaken by

¹ Dr. Dowler, *Position in Parturition*, p. 490.

our red brethren, as the Indian braves are usually so averse to work; but I must say that it is only now and then, among the Utes and the Pueblos in Mexico, that this occurs, and they possibly have copied the Mexicans.

The Indians, and lower class of Mexicans in the vicinity of San Luis Potosi, are confined either in a kneeling position partially suspended, or sitting upon the floor. If confined in the latter position, the accouchée sits on a sheepskin on the floor, between the legs of one of the assistants, the *tencedara*, or holder, who is seated on a little cushion, and serves as a support to the patient, her thighs pressing against the patient's hips, and her arms encircling her waist, the hands clasped just above the fundus of the distended uterus, so that she can follow the child in its descent, and exert a gradual but strong compression; the *partura*, of course, takes her position in front of the patient. Sometimes, in a tedious labor, this awkward posture is retained for one or two days, with not a little suffering to the *tencedora* as well as the patient.¹

The custom of the Sandwich Islanders varies very little from this, and it is a matter of some interest to note their habits, as these islands, two thousand miles west of San Francisco, were entirely unknown one hundred years ago, and even fifty years ago were perfectly barbarous; it is important to us, more especially as they still retain, in a great measure, their crude ideas and practices. Very interesting statements as to the obstetric practices in these islands are made by Dr. Charles H. Wetmore,² who has had a professional experience of twenty-two years upon Hawaii. When the labor is fairly commencing, the patient assumes a sitting posture upon a hard pillow or stone, her husband, or some intimate male or female friend, kneeling behind her, whose duty it is to clasp her above the abdomen in such a way that he can press down with considerable force upon the uterus and its contents, never relaxing this grasp to allow the fetus to recede. The accoucheur's position is in front; she has little to do but to receive the child. Pre-

¹ Dr. G. Barroeta.

² *Buffalo M. & S. J.*, 1872-73, vol. xii., p. 90.

cisely the same custom prevails among the Andamanese, on the coast of India,¹ the only difference being that the patient and supporting husband are seated upon the ground. So, also, the Bedouins,² the child, however, being caught in a sieve, which is held by an assistant.

I have repeatedly had occasion to refer to the nomadic and barbarous tribes of Asia, as they have so successfully



FIG. 29. — Andamanese Labor Scene.

resisted the encroachments and innovations of civilization, and among them many of these, to us peculiar positions, are still retained by parturient women; but, like the Indian brave, the Asiatic warrior is little inclined to assist his suffering partner; only among the Kalmucks is the parturient woman delivered in the lap of an assistant. The patient is seated upon the knees of a vigorous young man, who also exercises considerable pressure upon the abdomen by the hands which encircle the woman's waist.³ It seems pecul-

¹ "Jäger über die Andamanesen oder Mungiers," *Zeitschr. f. Ethnologie*, 1877, p. 51.

² Mayeaux, *The Bedouins*, chap. iii., p. 176.

³ R. Krebel, *Folk-medic.*, etc., p. 55; H. Meyerson, *Med. Ztg. Russlands*, 1860, xxiv., page 189; Ploss, 36.

lar that young men should, among some people, be chosen for this office: here he serves as an obstetric chair, and among the Brulé-Sioux a young warrior serves as a support for the parturient squaw, who suspends herself from his neck; only the Japanese see that the physician is an aged male, in case that these positions are assumed for obstetric purposes.

(c). *The Obstetric Chair.*

The positions we have so far considered have been almost

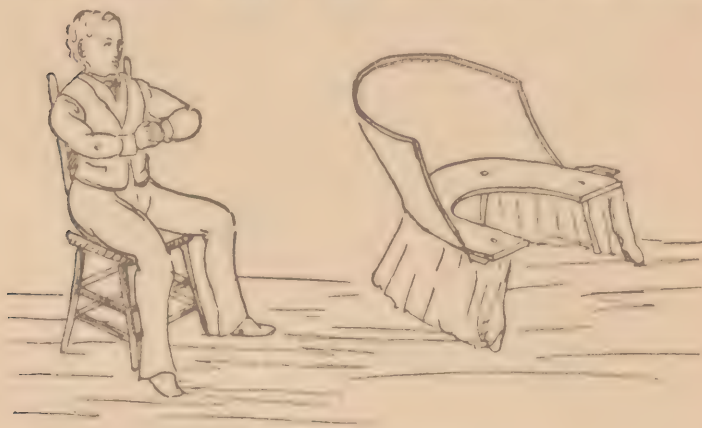


FIG. 30. — Origin of the Obstetric Chair. (Engelmann.)

altogether such as required no artificial assistance and were instinctively assumed.

With the advance of the obstetric art, the support given the parturient woman by the bone and muscle of her kin, by husband or tenedora, was replaced by a form of wood; the thighs upon which she sat, the chest against which she rested, were replaced by the cut-out seat and the slanting back of the obstetric chair, which was formed so as to receive the patient in the same position which she was wont to occupy on the lap of a fellow being.

We now come to the semi-recumbent position assumed by the parturient woman whose labor takes place in the

obstetric chair, under the supervision of a midwife or physician.

The obstetric chair marks a decided era in the history of the art; but I must consider that period as a whole, and in speaking of the chair I have reference to its more characteristic features, to those points which are common to all obstetric chairs, as it is not my purpose here to describe the various obstetric chairs which were in use at different times,

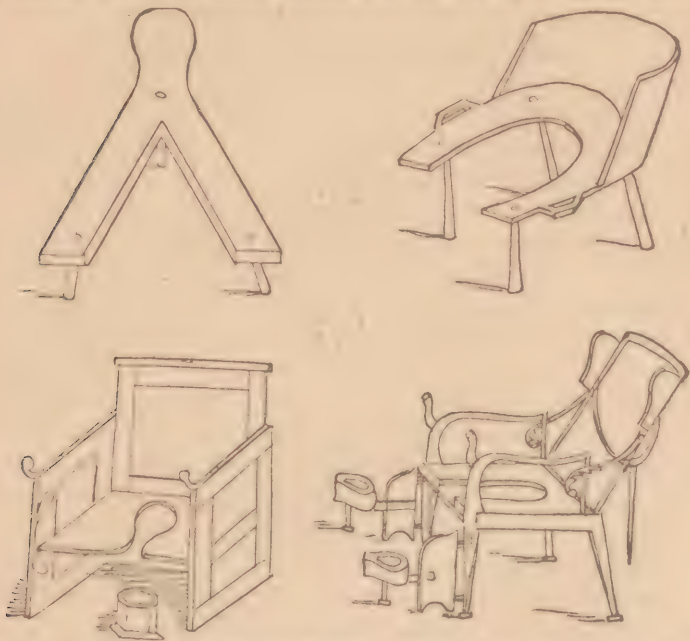


FIG. 31. — Development of the Obstetric Chair [from Goodell: Savonarola, 1547; Eucharius Rhodius, 1544; Deventer, 1701; Stein, 1805.

marking the progress of midwifery; the modifications were too numerous. "As in our times," to use Dr. Goodell's very striking expression, "eminent physicians are seeking to improve the obstetric forceps, so in those days learned men did not disdain to perfect the *sella loqua obstetricia sen obstetrica*." My intention is merely to refer to the obstetric chair as being an artificial means of placing the patient in that semi-recumbent position which I deem most advan-

tageous to the progress of labor, and which uncivilized people of the present day, as well as civilized nations of the past, long before the day of the chair, assumed as most comfortable for the parturient woman. The subject has been exhausted by the able pen of one of our fellows, Dr. Goodell, in his article on "Some Ancient Methods of Delivery;" and Dr. Floss, in his work, gives so complete a history of this method of delivery that I need but refer briefly to the subject. The obstetric chair which flourished in the days of Greece and Rome was almost forgotten in the darkness of the earlier centuries of the Christian era, but seems to have survived in Italy, partly owing to the writing of Greek and Roman authorities, partly because the custom was handed down from generation to generation among the people; and from Italy it found its way across the Alps into Germany and France. By this time, however, the rude stool of ancient times had been greatly changed in shape, complicated and improved, until the bow stool, as we still see it in the hands of the Cypriote midwife, is presented to us as the typical obstetric chair of the Middle Ages.

The chair is mentioned by Albertus Magnus in the thirteenth century, and in the German translation of this work, under date of 1589, an illustration is given which resembles the obstetric chair of Soranus and Moschion. In the seventeenth and earlier part of the eighteenth century the chair seems to have flourished in Germany, and also in England, and numerous modifications were introduced. Its supremacy, however, was not of long duration, and it soon yielded to the modern recumbent position, and was only retained by the more conservative people in the rural districts, who follow but slowly in the wake of any advance. Smellie¹ says: "In remote parts of England the patient sat upon a stool made in the form of a semicircle." This, of course, was during the time of the decline of the chair, when the dorsal and lateral decubitus had become popular.

In the seventeenth century it was to be found in the centres of medical learning, and had not yet been forced back into the rural wilds.

¹ Vol. i., p. 203, 4th edition.

As a matter of curiosity, I will cite the title of a work published in 1637, in which it was warmly advocated, and I will add a brief description of the chair, in the quaint language of the book, kindly furnished me by Dr. Wise, of the Surgeon-general's Library, and it will answer for this as well as all other chairs, and will serve to show the importance attached to its various features.

"The Expert Midwife: or, an Excellent and most necessary Treatise of the Generation and Birth of Man. Wherein is contained many very Notable and Necessary Particulars requisite to be knowne and practiceed: with Divers Apt and Useful Figures appropriated to this Worke. Also the Causes, signes, and Various Cures, of the most Principall Maladies and Infirmities incident to Women. Six Books compiled in Latine by the Industry of James Ruett, a Learned and Expert Chirurgeon: and now translated into English for the Generall Good and Benefit of this Nation."

"Let the stoole be made compassewise, under-propped with foure feet, the stay of it behind bending backward, hollow in the midst, covered with a blacke cloth underneath, hanging downe to the ground, by that meanes that the labouring woman may be covered, and other women sometimes apply their hands in any place, if necessity require. Let the stoole be furnished and covered with many cloths and clouts at the back and other parts, that the labouring woman receive no hurt, or the infant anywhere, strongly kicking and striving because of the paines, stirrings and motions of the mother. And after the labouring woman shall be set in her chaire about to be delivered, the midwife shall place one woman behind her back which may gently hold the labouring woman, taking her by both the armes, and if need be, the pains waxing grievous, and the woman labouring, may stroke and presse downe the wombe, and may somewhat drive and depress the infant downward. But let her place other two by her sides, which may both, with good words, encourage and comfort the labouring woman, and also may be ready to helpe and put to their hand at any time. This being done, let the midwife herselfe sit

stooping forward before the labouring woman, and let her annoint her own hands, and the womb of the labouring woman, with oile of lillies, of sweet almonds, and the grease of an hen, mingled and tempered together. For to doe this, doth profit and help them very much which are gross, and fat, and them whose seeret parts are strict and narrow, and likewise them which have the mouth of the matrix dry, and such women as are in labour of their first child."



FIG. 32.—Delivery in the Obstetric Chair; after Rueffius. 1637.

The antiquity of the obstetric chair has been greatly overrated, owing to the misconception or misconstruction of the data in our possession. I have endeavored to give conscientiously the earliest positive references to the chair which we have, and that, I think, is by Moschion in the second century; but the votive group from the temple of Golgoi, in Cyprus (pictured and described above), and that famous passage from Exodus, both of which are quoted as evidences of the early use of the chair, will, I trust, cease to figure in that capacity.

The group from the Cesnola Collection has been fully

described in its proper place; and as regards that out-quoted passage from Exodus i. 15 and 16, which is referred to by so many writers as indicating the use of the obstetric chair among the ancient Hebrews; it is translated by such, "When ye do the office of midwife to the Hebrew women, and see them upon the stool, if it be a son, then ye shall kill him," etc. I, however, believe, with Kœtelman, that that word "*ebnaim*," which is made so much of, and is translated, as already stated, by many as *chair* or *stool*, means *stones*. So that the passage would read: "When ye see the woman upon the stones." This would prove, as is most probable, that it was the custom of the ancient Hebrews to be delivered, like the Arabs of the present day, as observed by Dr. Goguel and others, in the squatting posture, seated upon two stones. These details are more interesting than important, and it will certainly suffice, as far as the antiquity of the chair is involved, to state the fact that several Arab authorities recommended the obstetric chair in difficult labors, and that it was also advocated by Hippocrates and Soranus among the Greeks, who were usually confined in the semi-recumbent position, often in bed. These are the first authentic statements as to its use. Its history has been a checkered one. At the present day, the obstetric chair is popularly used only among the nations of the East, and, as Ploss says, "It is remarkable that it should be among the very people who rarely make use of a chair for sitting purposes." We find the chair now in use in Japan and China, in Turkey, Greece, Assyria, and Egypt. In Japan, it was still advocated by obstetricians in the last century; in China it is common even now, although physicians battle against it. In Turkey it is used occasionally by certain midwives, as stated by P. Eram.¹ Dr. Denham speaks of its use in the East at the present day.² In Syria, no respectable midwife or "diyeh" is without her chair, as I am informed by Dr. A. J. A. Arbecly, of

¹ *Quelques considerations prat. sur les accouch. en Orient*, p. 407.

² Address before the Dublin Obstetric Society at its twenty-seventh annual session.

Damascus. The chair so used is different from any other I have seen described, and appears to be a most practical contrivance, enabling the woman to assume various inclinations of the body; it is like a rocking-chair with comfortable arms, the seat about two feet above the rockers, and cut out in a semicircle, so as to permit the expulsion of the child. An assistant holds the parturient woman by sitting behind her, or at her side, whilst the midwife remains in front to support the perineum with the palm of her hand, greased with lard or olive oil.

I have already called attention to the fact that those na-



FIG. 33.—Obstetric Chair in use in Syria.

tions who resort to the chair in obstetric practice rarely make use of it for ordinary purposes, and it appears highly probable to me that the absence of the rocking-chair from foreign homes may be accounted for by the fact that the only rocking-chair of which they had cognizance was the chair which the midwife carried from house to house, whenever her assistance was asked, for the relief of the child-bearing woman; this chair was then so intimately associated with the idea of suffering, of labor, and child-birth, that it did not appear as a desirable piece of furniture for parlor or sitting-room; it would have seemed improper and out of place. For similar reasons the comfortable arm-chair is an unknown luxury among certain Eastern people.

It is only within late years that the American rocking-chair has found its way across the ocean, and the increased facilities for intercourse, and the spread of a leveling civilization, will soon do away with these remnants of former times which still linger here and there. Amongst the modern Egyptians, the midwife makes use of a chair, "Kurseh El-Wiladeh," which is covered with a shawl, or an embroidered napkin, and some flowers of the henna tree, or some roses, are tied with an embroidered handkerchief to each of the upper corners of the back; thus ornamented, the chair is conveyed before the midwife to the house. In the houses of the rich, the parturient is placed on a bed after delivery, and usually remains there from three to six days, whilst the poor women resume their ordinary occupation in a day or two.¹ I will add that Lane, like almost every other author, refers to that passage, Exodus i. 16, intending to compare the custom of using the chair among the Egyptians with that of the ancient Hebrews. In Palestine, the obstetric chair is still an honored institution, but much simplified in form, being sometimes nothing more than an old-fashioned arm-chair.

(d.) *Semi-recumbent Position, Strictly Speaking.*

Although I have grouped as semi-recumbent all the positions last spoken of, I will, in this subdivision, confine the use of the expression more closely, and will class as semi-recumbent, strictly speaking, only those positions in which the patient assumes the dorsal decubitus with the head and shoulders raised, the axis of the body inclined at an angle of about forty-five degrees.

Like many other of these curious positions, this one is found in our own States, but seems to have come to us from the French settlers in the north. In Vermont, some thirty years ago, a semi-recumbent position was customary, which may either be looked upon as a rude imitation of the obstetric chair, or as a semi-recumbent position, strictly

¹ E. W. Lane, *The Manners and Customs of the Modern Egyptians*, vol. ii., p. 306.

speaking, and probably the custom has not as yet entirely passed away: the women in the rural districts were confined upon a bed made of three chairs tied together, upon which a straw bed was placed, and covered with a sheet. In front of this couch sat two women, whose duty it was to take the feet of the parturient woman in their laps, whilst the accoucheur sat between them, in front of the patient, where he was supposed to remain for two or three hours during the latter part of labor, if he did his whole duty.¹ The Canadian French women are partial to the in-



FIG. 34. — Favorite Posture of the French Canadian.

clined plane, made by turning forward and downward a high-backed chair, pressing it back against the wall of the room and making a bed upon it; though comfortable for the patient the legs of the attendant suffer from the stooping posture necessary.²

The custom in Japan, if I may judge from illustrations in a very complete "Japanese Midwifery," is a semi-recumbent position, on a mattress placed upon the floor, with the head and shoulders well elevated, so that the body is inclined at an angle of about forty or forty-five degrees. Precisely the same position is found among some of the Sioux nations,

¹ S. S. Clark, M. D., St. Albans, Vt.

² Dr. John Yale.

and the Assneboine Indians, who, as I am told by the well-known Indian interpreter, F. F. Gerard, lie on their backs, the head and shoulders propped at an angle of forty or forty-five degrees. This is the position usually assumed by them, although they are sometimes confined in the kneeling posture, like most Indians.

The Ute, Comanche, Apache, Navajoe, and Nez Percés woman is also confined in the semi-recumbent dorsal position, the head and shoulders of the patient being frequently supported in the lap of an attendant, while the patient has access to a rope or brace placed within reach.¹



FIG. 35. — Japanese Labor. Instrumental Delivery.

Among the Pahutes, the parturient woman is placed in her tent, on blankets and skins, in a semi-reclining position, with her hips firm on the couch; she is supported by an assistant, who sits behind her, and in whose arms she reclines; her legs are flexed, and additional assistants hold and steady the knees; a leather girdle is fastened about her above the womb, and, as expulsive pains come on, three or more women push the girdle down after the escaping child.²

The Comanche woman gives birth to her child in some

¹ Dr. L. Huntington, Surgeon U. S. A.

² F. R. Waggoner, M. D.

secluded spot not far from the camp, in the dorsal decubitus, on a low extemporized couch prepared for her under a tree. Upon this she is placed, with her feet against the trunk of a tree, lying on her back. A lariat, a small rope of buffalo or raw hide, is thrown over a branch and secured; one end of it is placed in the hands of the woman, and she is allowed to pull through as best she may.¹ This would prove that during the pains, and the expulsion of the child, the patient raises herself by the lariat, and thus assumes the semi-recumbent position.

The *Hindons* seem to find the position convenient, as the



FIG. 26. — *Parturient Labor.*

parturient woman is delivered while resting on her back, in the lap of a female seated on the ground, while her knees are bent, and are supported by two other females, one sitting on either side. In order to facilitate labor the parts are lubricated with oil, and the "Dyhe," resting on her knees before the patient, instead of supporting the perineum, urges the patient to assist nature in expelling the child, while she introduces the fingers of her two joined hands in a conical figure into the vagina, and, by spreading them, stretches the external parts, thinking in this way to facilitate labor, whilst she unquestionably retards it.² I

¹ H. S. Kilbourne, Assistant Surgeon U. S. A.

² "Notes on *Hindoo Midwifery*" by Dr. Wise, *Edinburgh Obstetrical Society, 12th Session*, p. 372.

will call especial attention to the custom of the Hoopa, lower Klamath, and the Orleans-Bar tribes, as it is precisely the same as I have occasionally seen my patients occupy in the efforts of expulsion. Lying on the back, the elbows drawn upwards and resting on the ground, the knees flexed to a perpendicular, the legs more or less flexed, and the heels resting on the ground.

The dorsal decubitus, with the body at an angle of forty or forty-five degrees, was common among the Romans. Moschion describes it. Celsus¹ and Paul of Ægina² recom-



FIG. 37.—Birth of the Emperor Titus. From Ploss. After an antique painting on the ceiling of a room in the palace of Titus, on the Esquiline Hill in Rome.

mend this position in certain obstetrical operations, and before the time of the obstetric chair it was commonly assumed in Germany. In some of the mountainous districts of Saxony the patient, semi-recumbent, shoulders elevated, is suspended during the pains and the expulsion of the child, upon a strong broad towel which is placed under the pelvis and seems to further labor most happily in many

¹ Lib. 7, cap. xxix.

² Cap. vi., p. 74.

cases.¹ The Gurian women take the dorsal decubitus, but at the moment of expulsion seize a rope suspended above the bed and raise the body to the same angle which we have found among so many other people.² Most reasonable of all seems the semi-recumbent position as occasionally adopted in the rural districts of this country; the patient



FIG. 38. — Virginia. Semi-recumbent in bed.

being upon a bed doubled up against inverted chairs, the feet resting against the foot board, sheets or towels being fastened to the bed posts.

C. HORIZONTAL, OR RECUMBENT.

We finally come to the horizontal or recumbent position, and by this I mean especially, 1. *The Dorsal Decubitus*, the obstetric position of the present day on the continent of Europe and in America, the head merely elevated by the ordinary pillow; 2. *The Position on the Side*, as customary in England; and 3. *Horizontal, Prone on the Chest and Stomach*.

1. *The Dorsal Decubitus.*

The semi-recumbent position held sway in Europe before the time of the obstetric chair, and after a period of great popularity soon disappeared, although its traces remained, especially in the slowly progressing country districts, until

¹ Dr. Leopold, *N. Ztschr. f. Geburtsk.*, xxv., 3, 1849.

² Ploss, 43.

the last thirty or forty years, when it finally yielded completely to the dorsal decubitus, which is now almost universal among civilized people. In England, where, however, it has now yielded almost entirely to the left lateral position, it began to grow in favor in the beginning of the last century ; in Scotland toward the end of that century. White, of Manchester, it may be of interest to note, was the first to advocate the dorsal and lateral decubitus in England (1773).

The Chinese women are frequently confined in bed.¹

Although this is the position which is taught by the laws of modern obstetrics, so perfect in all other respects, nature does not seem to have designed that woman should in this way free herself from her burden ; at least it appears very strange that instinct, the correct guide of uncivilized people, should so rarely lead them to adopt the recumbent position ; and it appears strange that, notwithstanding the most careful inquiry as to the position adopted by the savages, and notwithstanding the information I have received from surgeons who have come in contact with all of our Indian tribes, I have found scarcely any who assume a strictly recumbent position. Among some the women are confined in the dorsal decubitus, but rarely in the horizontal position. Among the Cheyennes and Arapahoes we sometimes find the dorsal decubitus in simple labors.² The Oregon Indians on the Siletz Reservation are invariably confined on the back with the feet drawn up. I am also told that others of the tribes on the Pacific coast follow this custom, especially those of the Grand Ronde Agency, Oregon ; the parturient usually keeps on her feet during the first stage of labor, but when the expulsion pains set in she lies on her back, her head very slightly elevated (her bed always on the floor), her thighs well flexed on the abdomen ; an assistant supports each knee and foot ; the patient presses her hands against her thighs, or, when the pains become severe, she presses

¹ Dabry, *La Médecine chez les Chinois*, Paris, 1863, p. 354.

² J. H. Bannister, M. D.

upon the fundus uteri; later an assistant carefully manipulates the fundus and follows the uterine globe.¹

The Nez-Percés and Gros-Ventre squaw assumes the stooping posture during the earlier stages of labor, with an assistant at her back, who clasps her body with her arms, and locking the fingers, brings the palms of the hands over the base of the uterus, making steady pressure backward and downwards during the pains; in some instances, during the stage of expulsion, however, the patient lies down indifferently on either side or on the back, while if on the side, pressure by the hands of the assistant is kept up continuously, if on the back, the assistant remains by the side of the patient and keeps up the pressure in the before-mentioned directions.

Upon the Antilles the recumbent position is also assumed, though we have seen that other postures are equally common there. Among one of the African tribes, the Wanika, the parturient woman lies flat upon her back, and this is perhaps the only instance where the horizontal position is so decidedly described.² Of the Indian women, Susruta says, page 368, "When the child is to be born, let the woman be placed with the back upon a carefully spread couch, giving her a pillow, let the thighs be flexed, and let her be delivered by four steady, aged, and knowing midwives whose nails are well trimmed."

In Southern India we find a similar custom to that observed among the Nez-Percés; the patient walks about in the earlier stages, then sits down with the legs stretched, her back supported by an assistant, whilst in the moment of expulsion she is placed upon her back.³

In Siam the patient is placed upon her back with a woman seated upon either side; these two assistants begin by forcibly pressing the abdomen downward and backward, the pressing of which is continued from three to five hours. If by that time it has failed to expel the fetus, one attend-

¹ Dr. J. Fields.

² Hildebrandt.

³ Shortt, *Edinb. M. J.*, Dec., 1862, p. 554.

ant is supported by the hand while she tramps the abdomen of the patient, always placing her feet above the fetus, as a *dernier ressort*. All other means having failed, they suspend the parturient by means of a band beneath the arms, as we have already mentioned.¹

The Burmese practice is to strip the patient naked and to compel her to run about the room, while half a dozen



FIG. 39.—Couch and Lying in Chamber of the Siamese. From Ploss.

women are about who squeeze her abdomen and beat it with pillows; this process is continued until finally she falls upon the floor exhausted, and some of the women still keep pressing the child down with their hands, trying to expel it forcibly; and there are instances, as the author is credibly informed, in which the woman is placed upon her back and the midwife sits upon her or stands up and presses against the child with one of her feet.²

In Australia other positions are assumed in simple labor,

¹ "Siamese Obstetrics," by W. L. Huntington, of Bangkok, Siam. *Med. Rec.*, N. Y., 1876, p. 133.

² *India J. M. Sc.*, Jan 1, 1835, p. 339.

but it seems that in difficult cases the parturient woman is treated in the same barbarous way. She lies upon her back between two assistants, one of whom places her knee in the small of the patient's back, whilst the other, lying more in front, awaits a labor pain and then presses her knees into the patient's abdomen.¹

In Astrakhan the Russian women are made to walk about unceasingly during the earlier stages, and only at the very last moment are permitted to lie down.

In Sumatra, if we may judge from a single case,² the patient is also confined in the recumbent position; and in Brazil, according to an old authority cited by Ploss,³ the native women were confined upon the ground. Several other such vague authorities are cited, but they are hardly sufficiently reliable for our purpose.

2. *The Lateral Decubitus.*

The position upon the side seems almost entirely a product of modern civilization, and, I must say, of prudery rather than science; it is not adopted as the obstetric position by any of those people who still lead a natural life, though assumed, in a few rare instances, in certain stages of labor. The Nez-Perés squaws squat in the earlier stages, and lie upon the side or back during the expulsion of the child. The Madies, on the contrary, first lie upon the side, and at the last moment take the knee-hand position. The women of the Laguna Pueblo, New Mexico, who follow their own inclination almost altogether in the position which they assume, stand or walk about in the early stages, but are confined standing, suspended in a half squatting position, or, if tired, on the back or side, with pillows between the knees; this latter position is also occasionally found among the Kootenai Indians, of Washington Territory; as Dr. Morgan writes, the woman is placed on her left side, under

¹ Marsden, *Journal of the Ethnological Society*, London, 1847, p. 14.

² *Monatschr. f. Geburtsh. u. Frauenkr.*, viii., p. 3.

³ Jean de Laet, 1640.

which is placed a pillow, or bundle of skins: another roll of skins, or a blanket, is between her knees, which are separated, so as to be about a foot apart; the patient holds a stake or cord, the arms are flexed, and the head touches the hands.

With the exception of these few data, I can find no other reference to this position.

3. *Prone upon the Stomach.*

This peculiar position has but few adherents; in fact, I can find no traces of it elsewhere than among the Creeks, who assume an over-done knee-chest position; *i. e.*, prone upon chest and stomach, in ordinary cases. "When the fetus is about to be expelled the mother straps the belt



FIG. 4. — Crow Creek. Prone upon face and abdomen across a pillow.

across her chest, allowing it to extend somewhat on to the abdomen. As the labor proceeds the strap is buckled tighter and tighter, until the expulsion is accomplished. meantime the position assumed by the mother is prone upon her face, her chest and abdomen across the pillow; in this position she remains until the expulsion. She then stands up, resting on a stick of some sort, with the feet spread wide apart. This is to let the blood flow more freely, and, so they think, to allow the placenta to be more rapidly and easily delivered."¹

Upon the Island of Ceram, as well as in Loango, and other districts of Central Africa, the patient is placed upon her stomach if labor does not progress in the ordinary posi-

¹ Dr. M. P. Pomeroy, Crow-Creek Agency, D. T.

tion, and the expulsion of the child is hastened by kneading or tramping upon the back of the sufferer.

A peculiar custom may yet be mentioned which is still observed, to the great discomfort of the parturient woman, among some of our western Indians, as well as among the more civilized natives of Syria; and that is, to toss the suffering patient in a blanket, the four corners of which are held by stout men, so that she is well shaken, with a view, probably, of rectifying the malposition, and shaking out the fetus from the unwilling womb.

PART II.

The Position of Women among Civilized Races of the Present Day in the Agony of the Expulsive Pains.

Abler obstetricians than myself have undoubtedly understood the movements of women, and the positions which they assumed in the agony of the expulsive pains. As regards myself, I must candidly confess this was not the case; and it was not until I had undertaken this work, and had begun to study the positions assumed by savage and civilized people during labor, that I began to understand that there was a method in the instinctive movements of women in the last stage of labor. I had seen them toss about, and sought to quiet them; I bade them have patience, and lie still upon their backs; but, since entering upon this study, I have learned to look upon their movements in a very different light. I have watched them with interest and profit, and believe that I have learned to understand them. It has often appeared to me, as I sat watching a tedious labor case, how unnatural was the ordinary obstetric position for the parturient woman; the child is forced, I may say, upwards through the pelvic canal in the face of gravity, which acts in the intervals between the pains, and permits the presenting part of the child to sink back again, down the inclined canal. If we look upon the structure of the pelvis,

more especially the direction of the pelvic canal and its axis, if we take into consideration the assistance which may be rendered by gravity, and, above all, by the abdominal muscles, the present obstetric position seems indeed a peculiar one.

The contractions of the previously inactive and rested abdominal muscles are a powerful adjunct to the tired uterine fibre, in the last prolonged and decisive expulsive effort, and in the dorsal decubitus they are somewhat hampered; they act to the best advantage in the inclined positions, semi-recumbent, kneeling, or squatting. We know that the squatting position is the one naturally assumed if an effort is required to expel the contents of the pelvic viscera; we, moreover, all know how difficult, even impossible, it is for many to perform those functions recumbent in bed, and mainly because they have not sufficient control of the abdominal muscles in that position. Much more is this the case in the expulsion of the child; but the recumbent position is sanctioned by custom; it is pointed out as apparently convenient; it is imperatively demanded by prudery, and by a false modesty which hides from view the patient's body beneath the bed-clothes; and above all it is dictated by modern laws of obstetrics, the justice of which I have never dared question; we have all been taught their correctness, and we all thoughtlessly follow their dictates. There is no reason for assuming this position, though we are taught it; it is not reason, or obstetric science, but obstetric fashion which guides us, — guides us through our patients; and blindly do we, like all fashion's votaries, follow in the wake.

We have seen in the first part of this paper that the recumbent position is one but rarely taken by women among savage tribes, or among people who still follow their instinct and not the dictates of the latest obstetric fashion. Now what does civilized woman in the hands of the modern obstetrician do when in the intense agony of the last expulsive pains? She loses control of herself, forgets the admonition of her physician, and gives way to her own in-

stinct. You have all seen what I have learned to understand but recently. The parturient woman, at the time of the expulsive pains, raises herself in bed into a semi-recumbent position upon her hands or elbows. This struck me most forcibly when I observed this motion in a young primipara who had gone through the earlier stages of labor bravely, and although partially under the influence of chloroform, when, with the last severe pains the head of the child would advance and then again recede, she finally, in



FIG. 41. — Semi-recumbent, in the midst of the expulsive effort.

her agony raised herself up into a semi-recumbent position, resting on her arms, and with the next pain the child was born.

Other women assume this semi-recumbent position by clinging to the neck of the husband, or an assistant who may be seated by the bedside. It is not love for the person which dictates this motion; it is an instinctive desire to raise herself into a semi-recumbent position, to facilitate the expulsion of the burden she bears. Others, again, have a sheet or rope fastened to the bedpost, upon which they pull with their arms; the object of this is only to assist in the effort of raising herself partially in bed, into a semi-recumbent position, as the kneeling savage raises herself by

a rope which is fastened above her head, or as others recumbent in bed or upon the floor, half raise themselves by a rope or pole above the head. It was instinct, certainly not obstetric teaching, which told the patients referred to by Dr. Campbell to assume the squatting position by which they were so easily delivered of their children, whilst tedious labor stared them in the face if they obeyed the modern obstetric fashion. In one case it was a negro, in the other it was a white woman of high social standing, who had suffered in several tedious labors while obliged to follow the dictates of her physician to remain in her bed; in her agony, following her instinct, regardless of advice or appearances, she assumed the squatting position, and was easily delivered. In another case Dr. Campbell refers to a girl whom he had lately confined kneeling upon the floor, her arms resting upon a low rocking-chair. Being asked how she came to assume this position, she said that in a former labor, four years ago, the midwife had kept her strictly in bed, never allowing her to get up; this, however, she was able to do occasionally, when the pains always seemed to improve. She said that the midwife threatened to tie her in bed if she did not remain quiet. She was, upon that occasion, in labor from four o'clock in the afternoon until ten o'clock of the second day; being in great distress, she disobeyed the midwife, and left her bed; her pains immediately increased, and she knelt down on the floor with her face resting in the lap of her mistress, and was in the same position as with the chair in the following labor: she says that she had not been in that position more than five minutes before the child was born. Her expression was, "The floor is the best place to have a baby, and I don't think I ever could have one in bed." The woman seemed quite intelligent, and afterwards candidly stated that her first thought, on the doctor's entering the room, was a dread that she would be put to bed and stopped from completing her labor.

I need hardly continue this evidence, as every one of the members is aware how frequently, in the last moments, a

change of position is made by the agonized woman. Rarely the inclined position, kneeling, or squatting, is assumed, mostly the semi-recumbent position, and that is the one which seems dictated by the instinct of the patient, and the one which I would accordingly advocate.

RÉSUMÉ AND CONCLUSIONS.

I WILL briefly recall the more striking and important features elicited in the inquiries I have made in regard to the posture of women in labor.

I. *The women of the various tribes and races are delivered according to customs, and in positions, which are peculiar to their people, whenever they are free to follow their own instincts.*

(a.) These positions are now adopted as customary and traditional, but in the first place they were assumed because they had proved the safest and best; delivery, in simple cases, being thus accomplished in the shortest possible time with the least possible suffering.

(b.) So great do the advantages of posture in childbirth seem to be, that people cling to this custom more firmly than to any other of their traditions, as we have seen by the chair of the Cypriote midwife, who to-day reenacts the labor scene of 2,300 years ago; and of the native Peruvian woman, who is still confined as were her ancestors at the time of the Incas.

II. *The positions assumed in civilized communities, by the advice of learned authorities, have varied greatly with the change in obstetric science, and with the demands of comfort and of modesty; thus, in the days of Greece and Rome, in the early centuries of the Christian era, a semi-recumbent position was advocated, either upon a low stool or in bed; later came the obstetric chair, and toward the end of the last century the dorsal decubitus, which has retained its supremacy, yielding, however, to the position on the side in the British Isles, and to the dictates of Nature in the agonies of the expulsive pains, when women will oc-*

asionally disobey the conscientious obstetrician, that they may obtain speedy relief.

III. *The same woman often assumes various position in the course of a natural labor; usually, she is more at her ease in the early stages, and not until the pains become more regular, rapid, and severe, does she take the position in which she is confined.*

Thus, the Coyotero-Apache squaw occupies any position she pleases, generally standing or walking about until bearing-down pains supervene (which, in fact, is almost universal among the North American Indians), then she assumes the squatting posture. The squaws of the Laguno Pueblo stand with their hands on their knees, much as they urinate, in the earlier stages; later, they stand up erect, supported by assistants or clinging to a rope. The Modocs maintain a curved position, lying on the side, until the labor is nearly completed, when they assume a position on their knees and hands, which is continued until the child is born.

Among the Nez-Percés and Gros-Ventres the parturient is in a stooping posture during the first two stages of labor, the buttocks resting on the heels, whilst during the expulsion of the child she lies down, on either side, or on the back.

IV. *In the last stages of ordinary labor, those positions which I have classified as inclined are most frequently resorted to; most common of all is the kneeling position, which we mainly find among the Tartars, Mongolians, and North American Indians: the squatting posture is also at home among our Indians, and among the Malays, the Australian and African negroes; equally frequent are the semi-recumbent positions, which, although resorted to by savage nations, are more closely connected with the progress of civilization. The ruder methods, such as the semi-recumbent position in the lap of an assistant, or on the ground, answer the same purpose as the more comfortable and refined posture in the obstetric chair or in bed.*

Least frequent are the recumbent or horizontal, and the standing or erect postures.

V. In all positions, whether the patient is swinging by the limb of a tree, whether she is kneeling by a stake, or semi-recumbent in bed, there is a decided change in the axis of the body during the pain, and in the interval of rest; and usually the patient has a support of some kind within reach, a rope, a stake, or an assistant, by means of which she can change the axis of the body, and intensify the contractions of voluntary and involuntary muscles during the pains.



FIG. 42. — Kneeling, clinging to rope.

The pelvis itself is usually steadied, whilst the upper portion of the trunk sways to and fro.

Some of our Indians walk about in the interval, and kneel down, clinging to the stake during the pain; for this purpose the Comanches, for instance, have a number of stakes planted in the ground at the place of confinement, in order that the patient may walk about,

and still find a support to kneel by at any moment, when the pain overtakes her.

The weakly woman, among the Kootenai Indians, who is confined in a recumbent position, raises herself by a rope which is suspended above her during the severer pains, and during the expulsion of the child.

The Indians on the Mexican frontier, who are confined in a kneeling position, usually stand or recline on the bed during the interval between the pains; but when a pain is coming on, they immediately grasp the convenient rope and hang on with all their might; and this position permits

of the easiest and freest motion of the body for the purpose of best adapting the inclination of the pelvic axis to demands of the advancing head.

The native Mexican is often confined kneeling on the floor; in the interval between the pains she lets herself down, her buttocks resting upon her heels, whilst during the pain she raises the body, throwing it backward or forward, according to circumstances, and clings to a rope, an assistant, or the neck of the midwife.

Surgeon George W. Adair, U. S. A., justly characterizes the difference in the methods pursued by various people. He says: "The English midwife exhorts the patient to lean forward; in America, the feet are fixed, and the patient is given a rope by which she raises herself during the pain; the Mexican midwife fixes the knees and holds the upper portion of the trunk as in a vice, and pulls the pelvis forward, hinged, as it were, upon the acetabulum, and thus overcomes the dip of the plane of the superior strait, and straightens the passage with greater efficiency and certainty."

Dr. Campbell closely observed the negro woman whom he saw confined in a kneeling posture, her arms resting upon a low chair, and saw that during the pain her body would move backwards so that her buttocks would rest between her heels, while in the intervals she would glide forward again, so that the thighs became perpendicular and the body horizontal.

VI. *In tedious cases, when delivery is retarded and labor will not advance, a change is usually made in the posture of the patient, and massage is freely resorted to; thus, the Cheyennes, Arapahoes, Nez-Perce's, and Gros Ventres, who assume the dorsal decubitus in ordinary labor cases, raising themselves into a semi-recumbent position during the expulsion of the child, resort to the knee-elbow position in difficult cases.*

The Siamese, who usually assume the recumbent position, and our Coyotero-Apaches, who squat in ordinary cases, both suspend the parturient by bands about the

chest, if labor is delayed, and let several assistants cling to the sufferer, suspending themselves from her with their arms above the uterine tumor; the Siamese draw their patient up in an erect posture, whilst the Apache squaw is swung in a more kneeling position.

Upon the Pacific slope, where the dorsal decubitus is the rule in ordinary cases, the patient is partially suspended in a kneeling or squatting position in difficult cases; the Syrians, who usually permit their patients the comforts of the obstetric rocking-chair, toss them in a blanket to shake the child out, or turn it, if the labor becomes tedious.

Instinct and experience teach the savage that by a change of position, labor may be hastened or retarded, and involuntarily they change the axis of the body in a way most favorable to a natural and safe delivery, hastening labor as much as is compatible with the safety of mother and child; all the inclined positions, especially the kneeling and squatting, clinging to a rope, are such that the direction of the pelvic axis can be readily changed. It remains for the scientific observer to demonstrate with precision the positions which are the most favorable under given conditions.

Herr von Ludwig, the speculative and theoretical writer, who has been condemned and ignored by practical obstetricians, describes the knee-elbow position as the one which retards the expulsion, making it slower and safer in difficult cases, saving the perineum, and the kneeling position, with the body inclined forward, as the one which retards expulsion but moderately, with proper care of the perineum.

Although it is not within the scope of this study to discuss the question as to the best position for women in labor, we may well look to the ethnological facts cited for a solution of this puzzling and highly important problem, and I will outline the more important *conclusions* which have developed.

I. *In the ordinary labor case, which is a purely mechanical process, the patient should be given greater liberty and should be permitted to follow the dictates of her instinct*

in regard to her movements more freely than is now customary.

II. *In the earlier stages of labor the parturient must be guided in her actions, and in the position assumed, by her own comfort and by the dictates of her instinct ; not only is this the invariable rule among savage races, but it was also warmly advocated by the shrewd and observing obstetricians of the past, and by those eminently practical and successful midwives of old.*

III. *The care with which the parturient women of uncivilized people avoid the dorsal decubitus, the modern obstetric position, at the termination of labor, is sufficient evidence that it is a most undesirable position for ordinary cases of confinement ; and I am convinced that the thinking obstetrician will soon confirm the statement not unfrequently made by the ignorant but observing savage, by Negro and Indian, that the recumbent position retards labor and is inimical to easy, safe, and rapid delivery.*

Several of the most esteemed of my colleagues have already given me a very decided expression of their opinion, taking the same grounds practically and theoretically. Dr. Campbell, of Georgia, says that a careful study of the actions of parturient woman in her natural state will force us to permit our patients, sometimes, at least, to obey their own impulses, and to assume a squatting, kneeling, or sitting posture, in their attempts to deliver themselves ; and this, he adds, " would, in my opinion, often do away with the necessity of resorting to the forceps, which, though a great blessing, too often become the reverse in the hands of eager obstetricians, who are inclined to use them on the least occasion, or without any real occasion at all." He has given me the history of a number of cases, most of which I have already cited, in which labor was retarded, progress had entirely ceased, and the propriety of the forceps was under consideration, when a speedy and unaided delivery followed a change of position from the routine dorsal decubitus to the squatting, sitting, or kneeling posture, as the instinct of the patient prompted ; but be it remembered, the same pa-

tient, when free to follow her instinct, always adopted the same position.

The cases related by Dr. Campbell are as striking as the one told me by Dr. V. Mansfelde, of Kansas: the patient being in great distress, labor having continued for several days, entire cessation of pains in the usual obstetric position, their sudden recurrence upon assumption of an inclined position, their disappearance, with the certainty of a chemical experiment, upon a return to the dorsal decubitus, and final speedy delivery in the position of the patient's choice.

Dr. Wilcox, of Massachusetts, and others have related similar cases, most of which I have already given, but I cannot close without again referring to the views of my friend, Dr. Campbell: "I will say that I regard what may be called the *Obstetric position*, as generally practised in this country, recumbent on the back, as not only the most unnatural, but the most disadvantageous and therefore the most unphilosophical; it is the position which, above all others, deprives the woman in labor of the advantages which gravity would give us in promoting expulsion; there the position almost nullifies the power of the abdominal muscles, leaving the almost unassisted uterine muscle to effect expulsion. The English method, on the side with the body bent forward and the thighs drawn up, is much more advantageous in so far as the abdominal muscles can act better."

IV. *In ordinary labor cases the expulsion of the child should be expected in an inclined position: Kneeling, squatting or semi-recumbent, in bed, on the chair or lap, as is done by the great majority of uncivilized people, and for the following reasons: —*

a. These positions permit the free use of the abdominal muscles.

b. The force of gravity does not counteract the expulsive effort as in the recumbent position, nor does it unite with it too freely, and hasten labor unduly, as in the erect posture.

c. With the assistance of a rope, stake, or other support the parturient can vary the inclination of the body and correct the labor, hasten or retard the descent of the child, and relieve the

pain, changing the axis of the body and throwing the fetal head toward the sacrum or symphysis.

d. Injury to the soft parts is less liable to occur in these positions, if we may accept the rapid getting up, and freedom of our Indian squaw from all uterine diseases, as proof of this statement.

V. Of these positions the semi-recumbent is the most serviceable, and should be adopted as the obstetric position in all ordinary labor cases; it is preferable to the kneeling or squatting.

a. As more convenient and comfortable, not exposing the person, and not being objectionable to the modesty of the patient.

b. As affording more rest and not being tiresome, which is a serious objection to the kneeling and squatting position as applicable to the tender female of our civilization.

c. The semi-recumbent position in bed, the body at an angle of forty-five degrees, the hips resting on a hard mattress, thighs well flexed, is the easiest, most comfortable, and appears to afford the greatest relief, and the greatest freedom from pain, coupled with the greatest effect of the uterine contractions, relaxation of all the parts, and free play of the abdominal muscles.

d. The pelvis is more readily fixed in this position.

e. The perineum has a certain support which does away with the questionable proceeding of supporting the perineum during expulsion of the head and shoulders, by which more harm than good is usually done.

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